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## SKETCHES OF THE HISTORY OF SCIENCE.

### NO. I.—EARLY AND LATE PROGRESS OF SCIENCE.

IN looking back to the past history of science, it is remarkable to observe how much the ancients accomplished, and how much they did not. Far back in history—near six hundred years before our era, and therefore two thousand four hundred years ago—the principles of our solar system were taught by Pythagoras, Anaxagoras, and a century later by Democritus, as well as other philosophers. Pythagoras believed in the diurnal rotation and annual revolution of our earth, and had something like a correct idea of the nature of comets. Anaxagoras taught at Athens, and had amongst his hearers, Socrates the great philosopher, Euripides the great poet, and Pericles the great statesman, and is said to have held many things as true which were not known to be true until comparatively recently. Democritus conjectured that the dark spots on the moon were occasioned by shadows, a far-distant anticipation of the revelations of the telescope; and both he and Anaxagoras are reputed to have considered that the “Milky Way” was composed of stars—a fact which Sir William Herschel has but recently put beyond doubt. Aristotle, the pupil of Plato and tutor of Alexander the Great, in his observations on the habits of animals and their scientific classification, may be said to have anticipated Linnæus and Cuvier by more than two thousand years. Euclid, who still teaches mathematics in our schools, was born about the time that Aristotle died; and Archimedes, some of whose reputed sayings are still quoted as scientific proverbs in our books and lectures, came into existence about the period of Euclid’s death, as if it had been intended that the succession of eminent men should be continued from generation to generation, in order to carry on the progressive advancement of science.

And yet how strange is the consideration, that the true history of science—meaning by that word, Natural Philosophy—only begins between three and four hundred years ago! The last four centuries has done more to elevate the human intellect—done more to extend the whole range of human knowledge—than a period of between six and seven thousand years which elapsed previously! It appears as if some great overruling Power had permitted the human intellect to advance a certain length at an early period in our history, and had then retarded its movement, until the arrival of a period when it was to spring forward with a rapidity unknown before. A long period elapsed between the death of Archimedes and the advent of scientific truth in the days of Bacon and Galileo. A still longer period elapsed between the days of Pythagoras and the time when the doctrine that the earth moved had to fight its way into the popular belief, in defiance of ridicule, of persecution, and of conscientious but ignorant fear that it tended to impugn the truth of revelation. That there *are* eras in the history of man, is an idea assented to by most of the great minds who have contemplated the past; periods when, to use the words of Sir John Herschel, in speaking of the times of Bacon and Galileo, an extraordinary impulse is given to discovery, and “Nature seems to second the impulse;” and the probability of the exercise of a

retarding influence—a staying of the progress of certain departments of human intellect, until the arrival of certain eras—seems to be hinted at by Professor Kidd, when he says, “Another remarkable fact in the history of human science, which, though frequently observed, has not yet been explained, is the occasional arrest of its progress at a point immediately bordering on discoveries which did not take place till many ages subsequently. This may be affirmed, in a certain extent at least, with respect to glass: for this substance, though very early discovered, hardly came into general use for ordinary purposes till comparatively a very late period. But a more remarkable instance occurs with respect to the art of printing; and whoever looks at the stereotype stamps, as they may be called, which have been discovered at Herculaneum and other places, will be disposed to allow that the embryo of the art of printing died, as it were, in the birth.”

We may leave speculation, however, as to the cause or causes which retarded the progress of human knowledge in the arts as well as in science. Many visible or apparent causes might be pointed out, in the condition of human society, the rise and fall of empires, especially the great empire of Rome, &c.; but it still must appear extraordinary (it may probably be more clearly seen at a future period in the history of the world) why, after the human intellect had continued for thousands of years in comparative darkness, vainly plunging in error, and ignorant of the constitution of the external world, it should suddenly be emancipated, and led out into the dazzling light of truth. Astronomy, the oldest of the sciences, so to speak, was studied, not from the mere love of knowledge, but because the knowledge of the stars was supposed to enable its possessors to penetrate futurity; two scientific arts—namely, astrology and alchemy—preceded two sciences, astronomy and chemistry. At the same time, we must beware of falling into the error, that because men were ignorant of the true principles of science, they were therefore ignorant of almost all its facts; and that both facts and principles were brought forth at once. All knowledge is accumulative; facts, though misapplied, may still be known; it is the “master-mind” who discovers principles—who walks, like Cuvier, into a charnel-house of “dry bones,” which appear to other eyes a mass of confusion, until arranged by the hand of genius.

In truth, looking at *all* the departments of human knowledge, there can be no hesitation in our assuming ourselves to be immeasurably superior to the ancients in every respect. The poet and the artist may be disposed to doubt the fact, and, pointing to time-enduring poems, and the enchanting even though mutilated fragments of art, ask if modern times can produce anything to approach them. But though the ancients made early progress in the arts—though they produced great poets, great sculptors, great statesmen, and great warriors, and though occasional philosophers made extraordinary “guesses at truth,” all that is vast and permanent in natural philosophy belongs to modern times. In the words of Sir John Herschel, “previous to the publication of the *Novum Organum* of Bacon, natural philosophy, in any legitimate and extensive sense of the word, could hardly be said to exist. Among the Greek philosophers, of whose attainments in science

alone, in the earlier ages of the world, we have any positive knowledge, and that but a very limited one, we are struck with the remarkable contrast between their powers of acute and subtle disputation, their extraordinary success in abstract reasoning, and their intimate familiarity with subjects purely intellectual, on the one hand; and, on the other, with their loose and careless consideration of external nature, their grossly illogical deductions of principles of sweeping generality from few and ill-observed facts, in some cases, and their reckless assumption of abstract principles, having no foundation but in their own imaginations, in others; mere forms of words, with nothing corresponding to them in nature, from which, as from mathematical definitions, postulates, and axioms, they imagined that all phenomena could be derived, all the laws of nature deduced."

"The physical researches of Aristotle," says Professor Powell, "present an extraordinary mixture of sound and chimerical opinions. His vast and industrious collection of facts in natural history evinces the sober and patient inquirer; his mechanics contain something of the real application of mathematical reasoning; whilst his physical speculations display all the extravagance of gratuitous theorising and verbal dogmatism. He attributed absolute levity to fire, and gravity to earth; considering air and water as of an intermediate nature. He considered gravity to be a tendency to the centre of the earth, which he also regarded as the centre of the universe. He also introduced the celebrated principle of Nature's abhorrence of a vacuum."

But whatever may be the merits or defects of the writings of Aristotle, it became a fashion, in what are called the "middle ages," to regard them as the great and infallible "text-book" of all philosophy. "In the early ages of the church," says Sir John Herschel, "the writings of Aristotle were condemned, as allowing too much to sense and reason; and even so late as the twelfth century they were sought and burned, and their readers excommunicated. By degrees, however, the extreme injustice of this impeachment of their character was acknowledged: they became the favourite study of the schoolmen, and furnished the keenest weapons of their controversy, being appealed to in all disputes, as of sovereign authority; so that the slightest dissent from any opinion of the 'great master,' however absurd or unintelligible, was at once drowned by clamour, or silenced by the still more effectual argument of bitter persecution. If the logic of that gloomy period could be justly described as 'the art of talking unintelligibly on matters of which we are ignorant,' its physics might, with equal truth, be summed up in a deliberate preference of ignorance to knowledge, in matters of every day's experience and use."

In that "gloomy period" appeared Roger Bacon, one of the "morning stars" which preceded the rising of the sun of true science. Roger Bacon lived in the thirteenth century, and was an ecclesiastic of the Franciscan order; but his mind was far in advance of his age. He was one of the very few enlightened men who endeavoured, in a period of very general ignorance, to lead his fellow-men to the true sources of science, and was consequently rewarded, not only with envy and hatred, but with actual persecution, having suffered imprisonment, and had his writings condemned. (See a brief sketch of his character in No. 58.) He had a theoretical knowledge of the composition of gunpowder, and had an idea of the telescope; and though he believed in astrology and alchemy, and other absurdities of his age, those who have studied his writings, and are acquainted with the character of both the man and his times, consider him to have been a philosopher of no ordinary stamp—one of those who sow the seeds of truth, to produce fruit in after-ages.

Nearly three centuries elapsed between the death of Roger Bacon and the birth of his great namesake, Francis Bacon, Lord Verulam; the one having died in 1292, the other having been born in 1561. In that interval appeared Nicolaus Copernicus, who began the construction of the modern system of astronomy, which was carried on by Tycho Brahé, Kepler, Galileo, &c., and completed by Newton, with the aid of his contemporaries and successors. As, however, we shall have to revert to these names again, and give some account of what they did, we shall pass on to Lord Bacon, who, along with his contemporary, Galilei Galileo, may be said to have fairly overthrown the old false systems of mental and physical philosophy, and laid the foundations of the true in their stead.

Lord Bacon was the youngest son of an eminent judge and statesman, Sir Nicholas Bacon, and was born in London in 1561. Though bred to the profession of the law, and connected with powerful families, he was a long time a struggler: but though kept somewhat in the background during the reign of Elizabeth, he began to rise on the accession of James I.; was made a knight, attorney-general; became what his father had been, keeper of the great seal, and at last became a lord, and chancellor of England. As a man, he fell from his high eminence. He was accused of taking bribes, in order to wrest the course of justice; the House of Commons took the matter up, and several cases of gross corruption were clearly brought against him. It was not avarice but need, and a foolish weakness, which thus caused him to sully his judicial and professional character, and to disgrace the woollack. He permitted a wasteful extravagance in his household, and his servants were the agents of his temptation. He was justly punished; being confined in the Tower, stripped of his offices, and subjected to a fine of forty thousand pounds. He never afterwards held up his head, but lived in retirement, spending his days chiefly in scientific pursuits. He died in 1626, in the sixty-sixth year of his age; saying, in his will, "My name and memory I leave to foreign nations, and to my own countrymen, after some time be passed over."

This is the man, the "glory of the woollack and the shame," whose writings helped essentially to revolutionise the human intellect. "By the discoveries of Copernicus, Kepler, and Galileo," says Sir John Herschel, "the errors of the Aristotelian philosophy were effectually overturned, on a plain appeal to the facts of nature; but it remained to show, on broad and general principles, how and why Aristotle was in the wrong; to set in evidence the peculiar weakness of his philosophising, and to substitute in its place a stronger and a better. This important task was executed by Francis Bacon, Lord Verulam, who will, therefore, be looked upon in all future ages as the great reformer of philosophy, though his own actual contributions to the stock of physical truths were small, and his ideas of particular points strongly tinged with mistakes and errors, which were the fault rather of the general want of physical information of the age, than of any narrowness of view on his own part; and of this he was fully aware." We shall give some account of Lord Bacon's chief work in our next paper.

#### PRONUNCIATION OF THE LATIN.

SPEAKING of the proper pronunciation of the Latin, Niebuhr said, "Why should we not adopt the Italian pronunciation? As to the pronunciation of the *c*, it is clear that the Romans did not pronounce it in the German way, *Tsitsero*; this is altogether an uncouth northern sound. To pronounce it like *Sisero* (with hard *s*) is equally wrong; no inscription, or other trace, induces us to believe that the Romans used *c* as equivalent to *s*. Besides, if we see that each nation pronounces Latin according to the pronunciation of the vernacular tongue, it is preposterous to maintain that one or the other is the correct pronunciation, except the

of Roger Bacon, Lord having been Copernicus, astronomy, &c., and libraries and these names pass on to Galileo, systems of ions of the

judge and on in 1561. nected with but though Elizabeth, e a knight, eper of the f England. accused of the House gross cor- ararice but o sully his wool-sack. ld, and his was justly offices, and ever after- g his days sixty-sixth memory I after some

e shame," man intel- Galileo," philosophy e facts of principles, idence the tute in its s executed e looked y, though ruths were tured with he general narrowness are." We our next

, Niebuhr on? As to s did not egether an with hard ces us to des, if we e pronun- maintain cept the

pronunciation of the Italian itself. That the *g* is not pronounced hard as the German\*, seems clear from the fact that most nations pronounce it soft. On the whole, Latin reads much better in the Italian way; and I think many passages of the poets require this pronunciation to receive their full value. People ought to agree to adopt this pronunciation; for it is too ridiculous to find the same language pronounced differently in every country, and subjected to all the caprices of the various idioms. The Spaniards sometimes claim to be, by way of tradition, in possession of the true Roman pronunciation. It is equally preposterous that they whose language is so much more mixed, and whose country was never more than a province, should have retained a better pronunciation than the people of the mother-country! Italian is still, in a degree, a Latin dialect."—*Lieber's Reminiscences of Niebuhr*.

\* The German *g* is pronounced like the English in *give*.

#### BOOKS AND BOOK-STALLS.

It is an old observation, that a large library does not necessarily make a learned man; and a person may acquire a very exact and comprehensive knowledge by the aid of a small but well-used collection of books. We do not, however, despise a "large" library—so far from it, indeed, that we only wish we had one. Still, a large library is of very little use to many people who reckon themselves very intelligent. They do not know how to use it, and they buy books on much the same principle that a lady buys trinkets, a virtuoso "curiosities," and a child toys.

We know one individual who, from his youth up, has had a devouring passion for accumulating books and "literary treasures." Prodigious have been his pains in copying prose and poetry, and in "cutting out" passages from newspapers; his shelves are crammed with collections, of which it may be said, reversing the usual style of an advertisement for the recovery of a lost document, that they are of use to almost anybody but the owner. In the same way, he has been at great expense for a book-case, and storing it with handsome books, very few of which he has read, and of those he has glanced over he can give but small account. This book-gathering passion may be indulged in harmlessly—nay, even usefully—by a monied man; but in a poor man it is ridiculous. A few nicely-bound books in a nice bookcase constitute a very pretty piece of furniture; but an avaricious passion for a mere accumulation of books is nearly as bad as the habits of the misers in the olden time, in storing up their gold and silver.

The late Mr. Heber, one of our modern bibliopoles, was a noted recent instance of a rich man indulging in a bibliomania. His large library is now dispersed—truly did he "heap up" books, not knowing who would "gather them!" When he was in town, he was a very regular visitor on *Sundays* of a noted dealer in old books. Just as the bells were about to ring for church, and all the good folks were about to trudge forth to their respective places of worship, would Mr. Heber present himself at the "old" bookman's door, which was afterwards, of course, carefully closed against all intrusion. There was an arm-chair respectfully set for him; the attentive bookseller had the various "treasures" he had picked up during the week ranged at hand; while the "shop-boy" also, deprived, like a chemist's apprentice, of his "one day," was in attendance to rummage amongst the stores. Thus, during the forenoon's service, would Mr. Heber's book-bill mount upwards; and books were added weekly to his library, hundreds of which he never looked on again.

It was confidently affirmed, that "cheap literature" would destroy the old book-stalls,—that "standard libraries" would put old books out of all fashion; yet, strange to say, the "old book trade" is more thriving now in London than ever. Greater quantities of old or second-hand books are bought than there used to be; and owing to a greatly-increased demand from the United States,

their value has been considerably augmented. But easy as it may seem to embark in this trade, it is not everybody who can read a title-page who is fit to keep an old-book stall.

We can understand the bibliomania of such men as Sir Walter Scott and Charles Lamb; we can understand and sympathise with the bibliomania of poor students, who buy books to read, and read them; we can feel what was the force of that passage before "cheap literature" came in vogue,—

"I saw a boy, with eager eye,  
Open a book upon a stall,  
And read as he'd devour it all;  
Which when the stallman did espy,  
Soon to the boy I heard him call—  
'You, sir, you never buy a book,  
Therefore in one you shall not look.'  
The boy pass'd slowly on, and with a sigh  
He wish'd he never had been taught to read,

Then of the old churl's books he should have had no heed."

But we cannot understand the bibliomania of people whose learning lies in title-pages and book-backs—our taste is not a *dusty* one. From this inferred censure we must exclude artists, some of whom pick up old books almost expressly for their title-pages: but then these title-pages are frequently exquisite specimens of antique art.

A young surgeon has given us the following personal "confessions of a bibliomaniac," which we hope will be useful to more than one of our readers:—

My vicious propensity to possess and hoard up books exhibited itself among the earliest of my likes and dislikes. No picture-book leaves were found lying about our floor after I was able to pick them up: all my little book-presents were kept as clean and as carefully as if I had been an apprentice to a bookseller. At school, too, I used to exchange my marbles for the books of my schoolfellows, and was invariably resorted to by them when their stock ran short, and they had still a book in their possession which they could part with. Many of these little books I could show even now, with a considerable part of each of the yellow fly-leaves scratched white, in order to erase the name of some one of my schoolfellows.

At this time even, I was very fond of reading, and have been till now, though certainly not more so than many around me. From my knowledge of books and other circumstances I was chosen librarian of our school-library, and in the exercise of this office my appetite for books increased considerably; every farthing which I could command was spent in books, and when I left school my library consisted of upwards of one hundred volumes, chiefly juvenile, however, and selected with little respect to their intrinsic value.

Immediately on leaving school, I was sent to prosecute my studies at the college of Edinburgh, and for a month or two was so engaged with my studies that my ruling passion was but little exercised; but the Christmas holidays having come on, I was left more at leisure, and soon became acquainted with every second-hand book-shop and every book-stall in the town. Afterwards these were my daily haunts, and I soon became personally acquainted with their proprietors. Some part of every day was stolen to visit one or other of them; and never did I pass one, however limited my time, without waiting a minute to cast my eyes over the well-known volumes. All this was the height of folly; for often, when I had appropriated the intervening hour between two lectures to visit some distant book-stall, have I waited so long, as to arrive at my class far behind the hour, and so warmed by my quickened pace as to be unable to listen attentively to the professor's instructions—and all for what? Simply for the gratification of seeing whether a single book had



been added to the stock of a distant book-stall;—content if there had been none; but if there had, to have the feeling of envy raised within me for a book beyond my means of purchase, or imprudently to lay out my slender pittance on a book envied merely for its possession.

Over all these book-stalls and book-shops I exercised as it were a kind of superintendence, and was perhaps better acquainted with their stocks than many of the booksellers themselves. With almost every volume on every shelf, its place and price, I was well acquainted, and knew at once by my first glance whether "anything new" had appeared. On account of the smallness of my allowance, however, my passion exhibited itself not so much in purchasing books as in watching over the buying and selling of them by others. Now and then I did make a purchase; and this was the ostensible reason for the frequency of my visits, with which I quieted my conscience for mispent time. There can be no doubt that the desire to purchase was strong within me, though the pockets were weak.

The same passion led me into another channel to gratify itself. Book-auctions were not unfrequent in Edinburgh, and many an hour did I spend—idly spend—night after night, at these haunts, and often without a single farthing in my pocket—my sole object merely to see a certain book sold, to learn its price, and to go home envying its purchaser. Often now do I wonder how, on a cold winter's night, I could leave my own snug little room and cheerful fire, with my well-kept library, and the last added book—so long envied before enough was saved to purchase it—to stand for hours among a crowd of book-stall keepers and eager biblioplists, waiting the sale of a book which I well knew I could but envy.

From the first year of my studies till their completion my bibliomania was rampant, and my time mispent, as I have described, hunting after books which I could not purchase, and purchasing often when my means could ill afford it, and when my sole object was possession.

Ere the completion of my studies, I was well acquainted with the names and intrinsic value of innumerable books; and the desultory reading of my purchases, with the conversations of my bookselling friends, enabled me to talk pretty smoothly of the merits of authors: but in real knowledge, relating to subjects foreign to my profession at least, I was miserably deficient, for few—very few indeed of those books, to possess which I spent my money and so much of my time, had been studied as they ought to have been: many of them, in truth, had never been opened from the day of their purchase, and were of value to me only as they adorned my shelves. Idle pursuit! one half of the time which I spent in the purchase of these unread books, if rightly employed, would have instructed me in many branches of useful knowledge which I left unheeded to purchase with my ignorance a knowledge of the title-pages, ages, editions, and prices of old and unread tomes.

Bibliomaniacs, as I was, are more numerous than is generally believed. I have met with many persons, and more especially young men, whose conversations on books betrayed them to me as biblioplists; and from many with whom I first became acquainted by meeting them at my book-haunts, have I learned that the passion in them was equally strong, and its effects equally baneful as in myself.

A friend who knew all my favourite book-stalls and book-shops, used always, when walking with me, to break from my arm whenever we came near one of them, and run past the stall or window, that I might not indulge in my favourite propensity. If a stranger accompanied me through the streets, I very seldom had fortitude to resist a peep at some stall or other; and on such occasions I am sure I must often have given offence by my conduct.

If I visited another town, the book-marts were my principal attraction: it was impossible for me to pass one without running my eyes over its contents, and examining those books which were new to me. If the prices were affixed, my enjoyment was enhanced; for it was painful to ask the prices of all those that I had an itching for.

I remember once paying a visit to Leith, where on a stall I found a book which some time previously I had seen marked in a bookseller's catalogue "very rare." I immediately hailed it as my own, though, beyond the knowledge of its *rarity*, I was altogether ignorant of its merits, never once having heard or seen its name mentioned till I saw it in the bookseller's catalogue. Its price was exactly the amount of my whole stock of cash, and being wearied with rambling about the sea-shore, I had previously determined on riding home. In this dilemma I prudently resolved to forego the purchase of the book, and followed up my resolve by at once taking out and paying for my seat at the coach-office, lest my passion might prevail over my prudence. The money paid, and all hopes of possessing the "very rare" book being gone, I longed more than ever to have it, and blamed my rashness for not considering better before foregoing its purchase. These feelings increased as the coach rattled along, and carried me away from the object of my wishes. Almost the first person that I met in Edinburgh was my kind friend, whom I immediately hailed, borrowed a couple of shillings from him, and ere ten minutes from my arrival was again on my way to Leith, to possess myself of the "very rare" book. It was soon mine, and I was as proud as if I had found a treasure. — *I have not yet read it!*

Last year I came to London, and immediately commenced my book-stall peregrinating system; but the extent of the field sickened me, and being soon convinced that indulgence in my old propensity would utterly ruin my professional prospects, like a true Scot I threw it to the dogs, and stuck to physic. Bitterly do I now lament the time mispent in the indulgence of my passion; and I would urgently impress upon all who have a like propensity, the superior satisfaction and delight which I have felt since giving it up, in the enjoyment of the internal beauties of those books which formerly I valued only for their possession.

#### HUNTING IN THE ISLAND OF CEYLON.

WE proceed now, as promised in the previous Number, to make some extracts from Major Forbes's volumes, relative to his adventures, not in the battle, but the chase. We must, however, first give his adventures with a creature somewhat smaller than an elephant. When he was on an excursion, in 1832, to inspect some ruins, he says,

"Whilst stooping down to examine the sluice at the Kalawa tank, I suddenly found myself completely overspread by that greatest of living torments within the tropics—viz. ticks. From the effect of their bites I suffered much inconvenience for several weeks, and was obliged to leave this very warm part of the country immediately, without waiting either to complete the business which had brought me down, or to make some further excursions which I had projected in Nuwarakalawia. Ticks are to be found in all the dry parts of Ceylon; often banded together in lumps containing several thousand, they remain attached to some leaf, which, if touched by an unwary passenger, discharges a shower of these pestilent vermin, which soon make their presence known by bites resembling the application of red-hot needles, followed by intolerable itching. Ticks, although sometimes much larger, are in general about the size of a pin's head; they are round, hard, flat, and adhere with wonderful pertinacity to the skin of men or animals, into which they occasionally contrive to introduce themselves. They disregard all attempts to kill or remove them by any application except actual force; but the natives having the benefit of much practice in putting to death other animals of similar habits, pick off, and subject them to interdental trituration with

much ability and zest; their practice in this respect corresponding with that of the most classical nations of civilised Europe.

"It may, however, be satisfactory to those who may visit tropical climates to know, that the longer they remain in them, the less are insects and their bites regarded; and the sojourner of ten years' standing may hear with complacency what he had often listened to with impatience, particularly on first landing,—'Don't scratch mosquito bites;' which is a warning commonly offered in sincerity by old residents, and neglected from necessity by newcomers."

The Major does not think that "tee-totalling" will do in Ceylon.

"I was in the habit," he says, "if I had been travelling in the sun, of taking a bumper of madeira and an equal quantity of warm water: this was a sufficient restorative; and prevented my being chilled, while dressing, in the currents of air that find free passage through most rest-houses, and are inseparable from all leaf-huts. If much exhausted by violent exercise or long exposure to the sun, I took brandy-and-water; but always in small quantities—not more than a wine-glassful at a time: copious draughts, unless persevered in, (this is often impossible, and never advisable,) aggravate the evils of thirst and exhaustion which they are intended to subdue. Generous living is necessary for Europeans in Ceylon, and nothing is more likely to injure a constitution than bad fare and unnecessary abstinence; perhaps needless fear of climate is equally hurtful, for it prevents the timid from indulging in that change of air and scene which has proved so beneficial in health. The water-lapping hypochondriac and the trembling valetudinarian cannot expect to enjoy themselves in Ceylon: the one has not the strength, the other wants the courage, to visit the magnificent and exciting scenery of this lovely island. In rocks, rivers, mountains, forests,—all that is grand and beautiful in nature,—he sees but forms behind which may lurk some demon of disease, that has no existence but in his own distempered fancy. To maintain a sound constitution in Ceylon, it is only necessary to live well, avoid excess, eschew indolence, take sufficient exercise for the body, and give constant employment to the mind. I consider the use of Chinese umbrellas to be of material service in preserving health; they are procured at a trifling expense, are easily carried, and, being formed of paper covered with thick black varnish, are an effectual protection against the rays of the sun. Many Europeans despise this precaution; but no native willingly exposes himself to the sun or rain if he can procure an umbrella, or its substitute in the shape of a talapat, palmyra, plantain, or aram leaf."

The following is a mixed narrative, showing that even the pleasure of elephant-shooting is not without sundry drawbacks.

"On our arrival at Avisavellé, the Modeliar informed us that the large herds were at some distance off, and in a very dense jungle; but that he had certain information of a *hora-alia* (rogue-elephant) that was little more than a mile from the rest-house. Against this one we determined immediately to proceed. Natives believe a rogue-elephant to be a turbulent member expelled by the unanimous consent and assistance of a whole herd; also, that he is destructive to crops and dangerous to people, and is alike dreaded by his own kindred and by the inhabitants in the neighbourhood of his haunts; he seldom ranges beyond ten or fifteen miles, and is generally to be found in the same forest. Some rogue elephants have killed many people; for, having once overcome their dread of man, and made a successful essay, homicide seems to become to them a favourite amusement: they have been known repeatedly to remain quiet near some jungle-path (contrary to their usual habit, which is to be always in motion,) until a victim come within their reach. I afterwards knew an instance of a rogue-elephant in mid-day coming into an open field, killing a woman by trampling her to death, and then leisurely returning to the forest; neither irritation in the animal, nor any inducement to the act, could be perceived by a number of persons who were near the unfortunate victim. It is more easy to account for rogue-elephants attacking natives carrying loads of rice; this often happened during the Kandian rebellion, although many of those Coolies (baggage-porters) who were missing, and supposed to have been killed, merely kept out of the way, and concealed themselves until a change of circumstances should free them from the compulsory execution of a most arduous, fatiguing, and dangerous service."

"From Avisavellé we passed down the bank of the Setawaka river, through scenery which closely resembled an English park;

fine glades of green turf, with clumps, thickets, and forest-trees of enormous size, gave beauty to this woodland scene, until we arrived at a thick bamboo jungle. Into this we entered, and filed along a narrow, damp, dark buffalo track: here the fallen leaves seemed to be alive, from the innumerable land-leeches that moved amongst them; and it required the excitement of a wild elephant in the thicket to prevent me from stopping to pluck these ferocious vermin from my feet, hands, and neck. In passing along, our guide stopped, and reaching up his hand, pointed to a tree, the trunk of which was coated with mud at least as far as nine feet from the ground: this showed us the height of the elephant of which we were in pursuit, and who had been lately using this tree as a scratching-post. A little farther on, and the native, who was leading, suddenly stopped, and bending his head almost to the ground, pointed to a small open swamp, at the same time drawing in his breath, and repeating rapidly in a whisper, *Onna! onna! onna!* (There! there! look there!) Kneeling down amongst legions of leeches, I was just in time to see a huge elephant slowly raising himself from his luxurious mud-bath in a shady quagmire: for a moment I hoped he was about to charge at us; and I was the more impressed with this opinion from the instantaneous shifting of our guide from the front to the rear of our party, in which position he would no doubt have been equally ready to lead the retreat, as, to do him justice, he had been forward to head the advance. The animal, still but indistinctly seen, paused for a second, then blew sharp through his trunk, curled it close up, wheeled round, and tore through the thick-set bamboos, which appeared to yield before and close behind his ponderous figure. It was impossible to follow into such a jungle; we therefore sought the open ground, and commenced shooting pigeons, which we found in considerable numbers and variety. On two different occasions, this day, large snakes glided from before me, and disappeared amongst the decayed leaves of the jungle. Whether they belonged to the class of the harmless garindi (rat-snake), or to the poisonous *naga* (hooded snake), I could not decide, as I had not as yet learned to distinguish between these serpents, which are as similar in appearance as they are different in character."

"I cannot sufficiently account for the wondrous few accidents that occur from snakes in Ceylon; that desire, common to all animals, to shun the path of man, appears to me the only reason of much force which I have heard advanced. From experience I can assert that snakes, even poisonous ones, are very numerous, and the few deaths which they cause is to me quite incomprehensible; therefore, the timidity of new-comers on this head is not only a natural impulse, but a rational feeling, and only gives way gradually before long habit and continued impunity. Elephant shots get much sooner rid of their fears on this subject than other people do, as the excitement of the sport absorbs all minor feelings, and snakes are not thought of when elephants are to be pursued."

Now for an adventure with a herd of elephants, during which inexperience and rashness placed the hunting-party in great peril; one of them meeting with serious injury.

"With heavy tread and noisy tumult the elephants came on, and rested, as far as we could judge from the sound, within twenty yards of us; and then again succeeded an interval of dead silence. To us they were still invisible, and the utmost straining of my eyesight was unable to gain me a glimpse of any of them: at this time anxiety and excitement made my senses so acute, that not only did I feel the pulses thump with unwonted violence, but the ticking of my watch sounded on my ear as if a church-clock had located itself in my pocket; neither could I turn my head without feeling and fancying I heard the joints of my neck creak on their pivots. The beaters in the mean time had advanced, and from a short distance behind and around the elephants arose loud shouts of people and the rolling of tom-toms: immediately the jungle in front of us seemed heaving forward, and a second or two only elapsed before the heads of the two leaders of the mass were distinct and bearing directly on us. I fired at the one immediately opposite to me, and not more than ten feet distant: he stopped, and was in the act of turning, when I fired again. Mr. S— had also fired twice at the other leader, and with the same want of success; for the whole herd tore back through the brushwood, and rushed towards the hill."

"Ere we could load again, double shots from both our friends on the rising ground announced the direction which the elephants had taken, and caused some of them to turn down; and these we heard tearing through, and at length stationing themselves in, the

bamboos behind the place where we stood. Having reloaded, we cut into something like a buffalo track, leading towards the spot where we imagined the elephants to be; but were soon overtaken by a native, who endeavoured by signs to persuade us to turn back and follow him. Tolerably sure of the position of our game, and not dreaming of any accident having occurred, we were pushing on, when another native came after us, and in broken English said, 'One gentleman plenty sick.' The close jungle and suffocating heat naturally suggesting itself to us as the cause of his malady, we handed to the messenger a specific in the shape of a brandy-flask, and were about to proceed on our path, notwithstanding the deprecatory shakes of his head and unintelligible sounds intended for English, his stock of which seemed to have been exhausted in the announcement above quoted. At this time the noise of elephants near us induced silence, and we distinctly heard Colonel L—— calling to us that H—— had been seized by an elephant: on this we hastened to the spot, and found H—— perfectly collected, but bearing evident marks of his recent encounter. That one of his arms and one collar-bone were broken, we soon ascertained; but we were afraid, from marks which showed that he had been rolled over on the ground, that he might have received more serious injuries. From what I heard at the time, and on my return here a few weeks afterwards, I believe that Colonel L—— and H—— each fired both barrels at elephants advancing on them. After the discharge, as the one at which H—— fired rushed forwards, he turned to receive his spare gun; but the native who held it had fled. H—— then endeavoured to escape, but fell; and the animal coming up, knelt down, and with his head attempted to crush him against the ground, and in doing so rolled him over. In perfect ignorance of the perilous situation of his friend, Colonel L——, observing the elephant apparently butting against the ground, concluded it was a wounded one, and went up for the purpose of giving a finishing shot. On seeing him quite near, the animal suddenly raised itself and rushed into the jungle; while, to the utter astonishment of Colonel L——, H—— got up from apparently the very spot which the elephant had just quitted. Had Colonel L—— been a few seconds later in running up, H—— would probably have been sacrificed; or had Colonel L—— fired and killed the elephant, it must have fallen upon and crushed H——, who in every way had a narrow escape.

"The active and energetic Modeliar soon caused a temporary litter to be prepared by some of his followers, while others cut down such bamboos as might obstruct its carriage through the path: this done, we soon reached the road, and afterwards met the Modeliar's palanquin, into which we transferred our disabled friend, and proceeded towards Hangwellé; our dinner unfortunately lying in the opposite direction. On reaching Hangwellé, we found a boat ready, in which without loss of time we embarked; and the stream that, in the height of our spirits, and when flushed with anticipated sport, had defied our utmost exertions to proceed on our upward voyage, now bore us swiftly along, baffled, discomfited, and dinnerless. We reached the bridge of boats at midnight; and in an hour after, H—— was in the fort of Colombo, attended by the medical men, who ascertained that the only very severe injuries he had received were those we had already remarked.

"After placing our disabled friend in the hands of the surgeon, I accompanied Colonel L—— to his house on the Galle road, and there we bethought us how eighteen hours of fatigue and fasting might best be repaired. As a preliminary to something more substantial, a glass of liqueur was proposed; and seeing it both rich and clear, I willingly consented to make it a bumper. Had I been able to control my feelings for a few seconds after swallowing it, my kind host would also have taken as a cordial what my premature exclamation enabled him to shun as an odious drug: 'fine cold-drawn castor-oil' was found printed on the label!

"H—— recovered rapidly from the effects of his accident; but it was a warning which, combined with our most unwelcome fast and signal failure in elephant-shooting, was a sufficient reason for my commencing to acquire more minute information regarding the interior arrangement of an elephant's head, before I should again run the risk of facing a herd at close quarters. The Colombo Medical Museum afforded me the opportunity of examining the skeletons and sections of the skulls of these animals; by which I at once perceived that the real information I had picked up on this subject was very limited, the instructions I had received extremely incorrect, and that my conclusions were proportionably erroneous. I found that the brain of an elephant occupies but a small space, perhaps not more than one-eighth part of the head, the bones of which were very thin and particularly light. The fore part of the

head, in front of the brain, for a thickness of eight inches, is formed of cells separated by thin plates of bone: this, with the muscles necessary to move their trunks and support their enormous heads, is a satisfactory explanation why those persons who have attempted to shoot elephants without being close to their game have invariably proved unsuccessful. Having been made aware of this fact, our want of success was owing, not to firing at too great a distance, but to our ignorance of the small size and peculiar position of the brain of an elephant."

The following is a fair counterpart to some of the adventures of our Cockney sportsmen:—

"In our morning ride we met a young sportsman with a European complexion and abundance of big guns: he informed us of his success the day before in killing two wild buffaloes; complained of being interrupted by a native, whom he could not understand, and had abruptly dismissed; and ended his frank communication by stating, what I already guessed, that he had but lately joined his regiment at Trinkomalee. Two miles farther on we overtook a native, who soon made known to us, by most obsequious gestures and a grievous clamour, that he was on his way to the district judge, to claim compensation for the loss of two buffaloes which had been shot by the gentleman we had so lately passed. He said his claims and remonstrances had been unheeded by the European gentleman (who probably did not understand a word he said), and that his other buffaloes were in imminent danger (most likely some had already bitten the dust)."

A gallant colonel found a "pocket-pistol" of signal service in an adventure with a bear.

"The Ceylon bear, although of small size, is fierce, and much dreaded by the natives; some of whom I have known terribly disfigured, when they were fortunate enough to escape with life from the strong arms and sharp teeth of these animals. The encounter of an active and gallant officer, Colonel H——, with two bears in the Mágampattoo, is a story well known in Ceylon. He had embarked in a native boat, which was driven far past Hambantotte, the post at which he intended to land: having got on shore, although without attendants, and at a considerable distance from any inhabited place, he determined on attempting to reach a resting-house before night-fall. In this determination he proceeded, carrying a small portmanteau and a bottle of brandy; the last article a gift most fortunately pressed upon him by the friend from whose house he started. While proceeding with all possible expedition, it became dusk, and Colonel H—— found the path beset with elephants; by them he was chased, but escaped by throwing away his portmanteau. Much exhausted by his exertions, he had proceeded but a short way, when, by the indistinct light, he perceived two bears occupying the path, and advancing upon him. As soon as the animals came within reach, Colonel H—— struck the foremost bruin so severe a blow, that the bottle was broken on the animal's head, and the brandy dashed over its countenance: on this the bear made a precipitate retreat, followed by his unappointed companion, and Colonel H—— arrived in safety at the rest-house of Yallé."

"There are several different ways of catching elephants in Ceylon; but that requiring least preparation and most dexterity is noosing them in an open forest. For this purpose, having ascertained the position of one, the hunters steal up against the wind, carrying their atmaddoes (strong ropes made of bullock's hide, with a noose at one end). Having got close to the animal's flank, they watch an opportunity, either when he starts off or attempts to turn round, of slipping the noose under a hind-foot, at the same time taking a turn round a tree with the other end of the rope. Checked and tripped, the animal stumbles; and, before recovering, additional hide-ropes are fixed to his other legs, which are afterwards entangled by cords made from the keetul (sugar-palm) tree, and twisted from one foot to another, in the form of a figure of eight. The elephant is then fixed to the nearest tree, and a shed erected over him, unless tame ones can be procured to escort him to the stable.

"Another method by which elephants are caught, with less danger to the people but greater injury to the animal, is by laying a large noose of gasmaddoo (a thicker kind of hide-rope) in a path, covering it slightly with earth, and fixing the other end to a shady tree, in which a man is concealed, who holds a leading-rope attached to the noose. The elephants being driven towards the snare, if any of them put a foot within the noose, it is raised around his leg by the man who is on watch: by the animal's exertions to escape, the noose is tightened; and the hunters coming up, the capture is completed. Elephants caught in this



way so often overstrained themselves before the hunters came up, that I discontinued catching with gasmaddos.

"In the maritime provinces, it was the practice to catch elephants in very large kraals; and a multitude of people driven to these hunts were placed in a semicircular chain, sometimes embracing a great extent of country, until, gradually advancing as the elephants removed, the extremities of the line of assailants were brought round so as to reach the enclosure. By noise during the day and fires at night, the encompassed animals were gradually pressed forward towards the fence; then, unable to proceed except by the passage left on purpose, they rushed into the toils, and the entrance was immediately secured before the enraged captives had time to discover their dilemma. From the great kraal the elephants were forced or enticed into a narrow funnel-shaped passage, in which, being unable to turn, they were easily secured, and, as they came out, were attached to two tame elephants to be conducted to the stables."

#### EARLY LIFE OF SIR WILLIAM HERSCHEL.

In our 64th Number we inserted an article on the study of Astronomy, which commenced with a brief notice of the life of the late Sir William Herschel, father of the present Sir John Herschel, the Astronomer. It was there stated that Sir William was the second son of a musician at Hanover, and that his early life was spent in connexion with the musical profession, "though few correct particulars respecting it are known." It then goes on to state, that he began to turn his attention to Astronomy while he was resident at Bath, as organist of the Octagon Chapel, &c.

Previously to this, it appears that he had been organist at Halifax in Yorkshire, and that he was brought into notice at Doncaster in that county: and perhaps it would not be uninteresting to our readers if we were to insert the following particulars, which we believe are only partially known, of a portion of his early life, and of the manner in which the astronomer who discovered the Georgium Sidus was brought from a state of humble obscurity to a situation which paved the way to his future greatness.

The gentleman who was the means of this change in his circumstances was Edward Miller, Doctor of Music, at that time organist of the parish church of Doncaster, and who afterwards wrote and published a History of that town and the neighbourhood, in quarto. The Doctor, in a note in the said History, gives an interesting account of the manner in which Herschel was introduced into respectable society; and we think that we cannot do better than tell the story in his own words.

Speaking of the manner in which the gentry of Doncaster and the neighbourhood wisely spent their evenings at that time (which was about the commencement of the present century), the Doctor describes the weekly concerts given by Mr. Copley at Nether Hall, in which Sir Bryan Cooke, of Wheatley Hall, near Doncaster, grandfather of the present Sir Wm. B. Cooke, Bart., took part, along with other gentlemen in the neighbourhood. He then says, "On the arrival of Mr. Herschel in Doncaster, Sir Bryan Cooke, of course, resigned the first violin to him." The note above alluded to refers to this part of the text, and is as follows:—

"It will ever be a gratifying reflection to me, that I was the first person by whose means this extraordinary genius was drawn from a state of obscurity. About the year 1760, as I was dining with the officers of the Durham Militia at Pontefract, one of them informed me that they had a young German in their band as a performer on the hautboy, who had only been a few months in this country, and yet spoke English almost as well as a native; that, exclusive of the hautboy, he was an excellent performer on the violin, and if I chose to repair to another room, he should entertain me with a solo. I did so, and Mr. Herschel executed a solo of Giardini's in a manner that surprised me. Afterwards I took an opportunity to have a little private conversation with him, and requested to know if he had engaged himself to the Durham Militia for any long period? He answered, 'No, only from month to month.' 'Leave them, then,' said I, 'and come and live with me. I am a single man, and think we shall be happy together; doubtless your merit will soon entitle you to a more eligible situation.' He consented to my request, and came to Doncaster. It

is true, at that time my humble mansion consisted but of two rooms. However, poor as I was, my cottage contained a small library of well-chosen books; and it must appear singular, that a young German who had been so short a time in England should understand even the peculiarities of our language so well as to adopt Dean Swift for his favourite author. I took an opportunity of introducing him at Mr. Copley's concert; and he presently began in

'Untwisting all the chains that tie  
The hidden soul of harmony.'

For never before had we heard the concertos of Corelli, Geminiani, and Avison, or the overtures of Handel, performed more chastely, or more according to the original intention of the composers, than by Mr. Herschel. I soon lost my companion—his fame was presently spread abroad—he had the offer of scholars, and was solicited to lead the public concerts both at Wakefield and Halifax."

So far, to the credit of the worthy doctor, himself a composer of no mean talent, and who must have been highly gratified at the result of his disinterested and noble generosity, we have introduced Herschel into public life. But the account states further,—

"About this time a new organ for the parish church of Halifax was built by Snetzler; which was opened with an oratorio by the late well-known Joah Bates. Mr. Herschel and six others were candidates for the organist's place. They drew lots how they were to perform in rotation. My friend Herschel drew the third lot—the second performer was Mr. Wainwright, afterwards Dr. Wainwright, of Manchester, whose finger was so rapid, that old Snetzler, the organ-builder, ran about the church, exclaiming '*Te tevel, te tevel, he run over te key like one cat; he vil not give my piphes room for to speak.*' During Mr. Wainwright's performance, I was standing in the middle aisle with Herschel. 'What chance,' said I, 'have you to follow this man?' He replied, 'I don't know; I am sure fingers will not do.' On which he ascended the organ-loft, and produced from the organ so uncommon a fullness—such a volume of slow solemn harmony, that I could by no means account for the effect. After this short extempore effusion, he finished with the old hundredth psalm tune, which he played better than his opponent. 'Ay, ay,' cried old Snetzler, '*tish is very goot indeet; I vil luf tish man, for he gives my piphes room for to speak!*' Having afterwards asked Mr. Herschel by what means, in the beginning of his performance, he produced so uncommon an effect, he replied, 'I told you fingers would not do,' and producing two pieces of lead from his waistcoat-pocket, 'One of these,' said he, 'I placed on the lowest key of the organ, and the other upon the octave above: thus, by accommodating the harmony, I produced the effect of four hands instead of two. However, as my leading the concert on the violin is their principal object, they will give me the place in preference to a better performer on the organ; but I shall not stay long here, for I have the offer of a superior situation at Bath,—which offer I shall accept.'"

Here, then, the future Astronomer Royal is traced to Bath, the place at which we first introduced him to the notice of our readers. More of the history of this great man, we believe, is scarcely known. It appears, however, that he came to England in 1759, a date which perfectly agrees with the time stated by Dr. Miller. It seems that he did not turn his attention entirely to Astronomy until the year 1770, eleven years after his arrival in this country. He then made a large reflecting telescope. About 1779, this self-taught astronomer commenced a regular review of the heavens, with a seven-feet reflector; and in 1781 it was that he discovered the Georgium Sidus, now called Uranus, and which for some time was frequently known by the name of Herschel, in compliment to its discoverer.

The main features of Herschel's life are alluded to in our former Number; and we need now only add, that his character and standing were so high in the scientific world, that the University of Oxford conferred on him the honorary degree of LL.D., and the Prince Regent, afterwards George IV., on behalf of his royal father, bestowed on him the high distinction of the Hanoverian and Guelphic distinction of Knighthood. Sir William Herschel died on the 23rd of August, 1822, at the age of 83.

## THE BRITISH PARLIAMENT.

## NO. II.

THE sittings of the house of lords have of late years fallen into a degree of irregularity which stands greatly in need of some remedy. After the first week or fortnight of the session very few lords attend, and the debates are few and "long between." In consequence of this paucity of attendance, many bills sent up from the commons are postponed until after Easter, and towards June and July the business to be got through becomes so very oppressive that their lordships are obliged to throw out many bills merely from want of time to give them sufficient consideration. It is obvious that the machinery of the two houses is not well adjusted in this respect.

The peers claim to be entitled from ancient prescription to vote by proxy on all occasions, except when the house sits in committee. A peer, for instance, who chooses to remain in the country or abroad, writes to the prime minister, or any other friend of his a member of that house, empowering such minister or friend to use his vote in any way deemed by either most expedient. It certainly does not appear reasonable that a noble lord residing, say at Naples or Rome, should have the power to vote at Westminster upon a question of which he was at the time of voting most probably altogether ignorant. It happens sometimes that a member of a deliberative assembly, after hearing the arguments on both sides of a subject, changes the opinions which he had entertained upon it before the discussion presented him with the opportunity of making himself acquainted with all its details. From any change of this kind, a proxy precludes the party who gives it. Indeed, there is no reason for excluding proxies from being counted upon divisions in committees, which does not apply with equal force to this species of voting in "the house" itself.

The general routine of a public bill through parliament before it becomes law is so well known that it seems almost superfluous to describe it. The purport of the bill having been fully or partially explained, the member who proposes it asks leave of the house to bring it in, if it is first to be introduced in the house of commons. In the house of lords no such permission is required, a peer having the right to lay his bill upon the table at once, and demand for it a first reading, which is almost never refused. The bill being read a first time, is printed, and a day is fixed upon for the second reading. At this stage it is discussed chiefly as to its principle; and if there be any material differences of opinion concerning it, the question whether it is to proceed farther is decided. If resisted, a motion is made by one of its opponents that it should be read a second time on that day six months; and should this motion be carried, the bill is thrown out. Should there be no opposition, or the motion against the bill fail, it is next referred to a committee of the whole house; its details are gone through, and alterations and amendments are proposed, and according to the views of the majority accepted or rejected. A member chosen for the purpose at the commencement of each new parliament presides as chairman on such occasion. He sits at the table in the centre of the house, and exercises all the duties which in "the house" devolve upon the Speaker. If, however, upon any material point of order, his decision be considered erroneous, it is referred to the Speaker.

The whole of the details of the bill having been arranged, the report of the committee is brought up. Upon the motion that the report be received, a fresh debate may take place. If unopposed, the next step is to order that the bill be engrossed and read a third time on a fixed day. The bill in its amended form is then engrossed upon sheets of parchment, which are folded in the form of a roll. Upon the motion that the bill be read a third time, it is competent to any member to move again that it be read a third time that day six months, or that further alterations be introduced into it. If these alterations be approved of, they are added in the way of "riders" on the bill; being so called because the new clauses are engrossed on separate slips of parchment, and

stitched to the original roll at the places where they ought to come in. If the bill be read a third time, the final question is, that this bill "do now pass;" a question upon which very rarely indeed a division takes place.

The bill, if approved by both houses of parliament, is presented in the house of lords to the sovereign for his assent, which is signified by him personally or by commissioners named for the purpose. His assent is expressed by the words—"Le Roi le veut,"—"The king wills it so to be." His dissent is conveyed in these words—"Le Roi s'avisera,"—"The king will advise upon it." The prerogative of rejection by the crown is now very seldom resorted to.

In the case of a private bill, a similar course is observed, except that the committee is a select one, which sits in a separate chamber. To a bill of this kind the royal assent is expressed in the words—"Soit fait comme il est désiré,"—"Be it as it is desired." The general bill of supply is carried at the close of the session from the house of commons to the house of lords by the Speaker: the royal assent to this bill is given in a different form by the words "Le Roi remercie ses loyal subjects, accepte leur b n volence, et aussi le veut,"—"The king thanks his loyal subjects, accepts their benevolence, and wills it so to be."

In ordinary cases a bill passed through the house of commons is committed to the custody of a member named for that purpose, who, attended by other members, carries it to the bar of the house of lords, and delivers it to the lord chancellor, who comes down from the woolsack to receive it. A bill passed in the first instance in the house of lords is carried to the house of commons by two masters in chancery, unless upon occasions of great importance, when that office is performed by two judges. All messages from the upper to the lower house are conveyed by masters in chancery; those from the lower to the upper house, by members of the former. Should disagreements take place between the two houses, the points of variance are discussed in a conference between delegates from each house. At this conference the commoners are uncovered, the lords wear their hats. Formerly also the peers (before the Painted Chamber, where such meetings were held, was burned down) claimed the right of standing upon a floor elevated by one step above that upon which the commoners stood. I know not whether this privilege be still adhered to. These old customs appear almost ludicrous; nevertheless they are symbols which mark the superior dignity always assumed by the lords over the commons, and as such are entitled to consideration.

When, at the end of a session, one looks at the long catalogue of measures proposed at its commencement, one wonders at the little that has been realised out of all that had been promised. This remark is especially applicable to the proceedings of parliament for the last three or four years, during which many bills that have occupied months in the house of commons have been thrown out, I may say, in bundles in the house of lords, from a want of sufficient time for consideration. Besides the reason already given for this occurrence, it must be acknowledged, I think, that the machinery of parliament, as it is now constituted, is scarcely equal to the management of the constantly-increasing business of this empire and its vast dependencies.

It would be a very great convenience, I submit, that every bill not absolutely necessary to be dealt with immediately, should be printed and widely circulated at least one session before it is brought forward for discussion in parliament. It would be well also to consider whether much of our private legislation might not be devolved, in the first instance, on assemblies of delegates in the localities interested; bills passed in those assemblies, however, not to have the force of law without the assent of a joint committee selected by ballot from both houses. Some such arrangement as this would save a great deal of time, and protect members from the severe fatigue which attendance upon private committees frequently imposes upon them. It often happens that members who are scrupulous in the discharge of their duties, are called upon to give to them no less than ten or twelve hours out of the four-and-twenty. A heavy day's work in a private committee, and then



six or eight hours' attendance in the house, are, if often repeated, sufficient to break down the strongest health. It is understood that the lives of individuals who are addicted to parliamentary functions are shorter, upon the average, than those of the generality of our population.

If the private business could be divided between local delegates and a joint committee of the two houses in the way I have mentioned, then there could be no good reason why the house of commons might not meet, as the chamber of deputies does in Paris, at one o'clock P.M., instead of five o'clock, and continue until seven in the evening. This would give the ministers all the morning and the evening (after seven) for the despatch of state affairs. On Wednesdays but little business is transacted in the house of commons, and on Saturdays it seldom meets. These two days of the session the ministers have entirely to themselves, besides the recesses of Easter and Whitsuntide, and the whole of that part of the year intervening between the prorogation and the new session.

Undoubtedly this alteration in the sittings of the house might not be perfectly convenient to professional and commercial members; but the amount of that inconvenience, even after making full allowance for it, is not sufficient to weigh down all the other advantages which such an arrangement would produce. The length of a day's debate being limited, might compel loquacious members to reduce their speeches in number and measure. The hours would be much more conducive to the health of the Speaker, clerks, the great mass of the members, and the reporters—a most valuable body of literary men, whose general habits would be much improved by a reform of this kind.

As to the house of lords, they seldom sit above an hour or two on Mondays; on Wednesdays and Saturdays not at all, generally speaking. The present arrangement is perhaps the only one that house could adopt, as the mornings are usually devoted to appeals, and other judicial business.

Another most important part of our "state machinery,"—one of which everybody feels the influence, but which it would be very difficult to describe,—is *public opinion*. What is *public opinion*? This is a question upon which two political parties can almost never agree. One party represents its view to be the popular one. Should this be conceded, which is seldom the case, the other still contends that it has upon its side all the "good sense" and real weight of the country, and that the sentiments of the sound thinking portion of the community alone are the true elements of "public opinion." All sides are agreed that "public opinion" is and ought to be the guide of ministerial and parliamentary measures; but their organs in the press so vehemently contend for their separate principles, that a common reader who peruses the journals of the antagonists is often sadly puzzled to decide who is right and who is wrong.

The debates in parliament are now so voluminous, that no reader can get through them unless he can devote to that purpose three hours a-day. This is a labour which very few persons will willingly perform; they, therefore, content themselves with the summary which they find at the head of the leading articles. These summaries are usually framed in the tone, and interspersed with brief commentaries advocating the political principles, of the journal. They are followed by more elaborate articles on "the same side;" and the result is, that nine readers out of ten, being but imperfectly informed as to the facts and arguments connected with both sides of a question, usually adopt, to save themselves further trouble, the sentiments of the journal which they are most accustomed to peruse. The journals which enjoy the most extensive circulation have, therefore, a *prima facie* title to assert that they are the true sources of "public opinion."

And it must be admitted that this is a title which is extremely difficult to overthrow, if we are to define public opinion to be the opinion of a great majority of the reading members of the community. There are, however, other things to be taken into consideration before we can accept this definition as the just one. We must, in the first place, look at the character of the publications which claim for themselves the titles of the "leading journals" of

the country. If their arguments be founded in truth—if those arguments be temperately and logically conducted—if the writers be manifestly free from strong political bias, and have in view, not the exaltation of one party or the depression of another, but the real welfare of the empire,—then their identification with a decided majority of the enlightened classes of the community entitles them to say that they are the authentic oracles of "public opinion."

But if, on the contrary, we plainly see at the commencement of a discussion upon any particular topic that assertions not consistent with truth are made,—if suppressions be resorted to—if the quality of candour be absent, and its place be filled up with mere declamation;—if this course of loudness and violence be pursued day after day, without any intervals of sober thought, quiet retrospection, calm investigation of the arguments and facts adduced on the other side, we must conclude that the sources of opinion contained in journals of that description are, to say the least of them, liable to great suspicion, if not altogether apocryphal.

Burke has remarked, that a man who utters through the press what he knows to be a lie, and repeats that lie every day for a month or two, will eventually believe it to be a truth. The habit he acquires, during any continued period, of contemplating his original invention, begets a faith in it which sooner or later shapes it out as an unquestionable fact. Moreover, if his journal have any circulation and influence, his primary fiction comes back upon his view in so many various forms from other publications which either copy it or argue upon it without suspecting its real character, that he becomes himself the victim of credulity as much as any of those whom he has gathered in his train. This is the kind of process that generally takes place when fanaticism, either political or religious, supplants in men's minds the faculty of reason. It is clear that from such a poisoned fountain as this truth cannot flow, and that although a majority of voices be in favour of the journal that presents it, their votes do not constitute it "public opinion." It is assertion—it is dogmatism—it is clamour—anything but opinion—that is, if we take opinion to be at all connected with sanity of judgment.

Besides the character of the journals which assume to be the true representatives of public opinion, we must also consider the classes of persons by whom these journals are patronised. This, however, is a matter of fact, involving a sort of general census of the population which cannot be easily made. From the arguments that are used, and the feelings and jealousies and interests appealed to, we can, however, form a pretty fair conjecture upon this point; and if we find that the majority assumed to exist, and to coincide with the journals on whose side that majority is ranged, does really embrace a large proportion of persons of property, information, and influence, we are constrained to acknowledge that they have with them that moral power known by the designation of public opinion—a power undoubtedly irresistible in this country.

Proofs of its many victories over all sorts of resistance abound in our annals. A very recent instance of it occurs in the establishment of the universal penny-postage. This was an innovation combated at its original stages by the post-office authorities, the government, and the houses of parliament. After passing through its early stages of discussion, it was opposed also by a portion of the press, and certain mercantile interests which, it was said, ought to be held inviolable. Even at the last hour the measure was not acceptable to the house of lords; nevertheless it is now the law of the land, having triumphed over all obstacles. And the reason that it did triumph is, that it carried with it a most decided majority of the thinking and discreet members of the community. The mistake of its opponents was, that they treated it as a mere fiscal question; whereas it involves considerations of the highest moral value, and moreover leads to results which eventually will show themselves in a great augmentation of the revenue, although that increase may not be looked for under the head of the "post-office."

True public opinion is, I apprehend, not difficult, after all, to be detected, amid the various sentiments put forth with reference to any question of importance. It is curious to trace its progress

from very small beginnings to an immeasurable extent. The surface of the smooth sea disturbed by the fall of a stone, and presenting a succession of circles in consequence, which every moment widen until at length they embrace a vast area, exhibits a just resemblance of the progress of what really may be called sound public opinion in this country. It is seldom that any measure of rational and useful reform is proposed amongst us in vain. The circle which at the commencement embraces its advocates may be small; but if it be really a good measure, that circle will every year grow larger, until at length it comprehends the whole country. Propositions of a chimerical tendency are speedily put down, especially if their advocates attempt to enforce them by mere brute strength: the laws have only to raise their calm and majestic voice if treason be abroad, and to summon around them all the energies of our social system whenever it becomes necessary to repel movements amongst the people of a character unsanctioned by the constitution.

At the same time, it is clearly to be understood that the people of this country possess a legal right of resistance against the violences of power. That right they exercise, when it is necessary, through the administration and free course of justice in the courts of law, through petitions to the crown and parliament for redress of grievances, through appeals by frequent meetings and the eloquence of the press to public opinion, and lastly, by the use of arms. It is to this right of resistance we owe the Great Charter, and the confirmations of it afterwards when monarchical usurpations endeavoured to rescind it. From the same right, lawfully put in force, resulted the abdication of the throne by James II., and the establishment upon it of the family now reigning over us. That great safeguard is expressly consecrated in the bill of rights. It is, however, a safeguard to be resorted to only in extreme cases. It is the acropolis to which we need not fly until all the outward bulwarks are demolished. De Lolme justly remarks, that "the power of the people is not when they strike, but when they keep in awe: it is when they can overthrow everything, they need never to move; and Marius included all in four words, when he said to the people of Rome—"Ostendite bellum, pacem habebitis;"—"Show them war, and you will have peace."

#### CHINESE TESTIMONIALS OF GRATITUDE.

IN No. 69, we gave an account of the Ophthalmic Institution and Hospital at Macao and Canton, originally established by T. R. Colledge, Esq., and carried on by Dr. Parker and others. We here add some additional particulars, taken from the Report of the "Medical Missionary Society in China," together with one or two "testimonials of gratitude" from some of the Chinese benefited by the gratuitous labours of these benevolent men.

We may commence with the Ophthalmic Institution at Macao:

"Its founder, T. R. Colledge, Esq., was appointed surgeon to the British Factory in China in 1826, and the succeeding year commenced administering to the infirmities of such indigent natives as sought his assistance. All sorts of distempers now came under his investigation. But soon discovering that no native practitioner could treat diseases of the eyes, which prevail to so great an extent among the labouring classes of Chinese, he determined to devote his skill more particularly to this branch of his profession. In the year 1828, he rented apartments at Macao, for the reception of such patients as required operations for the recovery of their sight. This institution became the topic of conversation throughout the province, and praises and thanks were heaped upon its proprietor by the friends and families of those who had received benefit, as well as by the individuals themselves who had felt 'his healing hand,' as may be seen by the translation of a few of the many Chinese letters expressive of gratitude, which were addressed to Mr. C., and which are annexed to this work.

"One of those letters I will here particularly notice: I allude to that from Tsae Ye, expressing his gratitude for curing his broken arm; and would state that the accident was caused by a horse, rode by a captain of the Honourable Company's Service, which was somewhat uncontrollable. The Chinese was met in a narrow path, near Macao, and the horse rushed upon him and tumbled

him over, and unfortunately broke his arm ere there was time to retreat, or stop the horse. Mr. Colledge happening to arrive at the spot soon after the accident occurred, was recognised by the crowd of Chinese that had assembled around the unfortunate man, and kindly taking him under his charge, restored his arm to health. Had this not been done, there is no doubt the Chinese officers, as is their usual practice, would have given the captain much trouble, and put him to considerable expense; and, could they have seized his person, would have brought him to trial; but all trouble was prevented by thus taking charge of the man."

The following is the letter alluded to:—

"Note of thanks from Tsae Ye, for the cure of his arm, to the English nation's surgeon, Colledge.

"I, Tsae Ye, of Mongha (village), on the 7th of the 9th moon, when going to the village, met on the way a ship captain, riding about for amusement. We encountered each other in a narrow part of the road, where there was no room to turn off, and avoid one another. Hence I was kicked and trodden down by the horse, and my arm broken. Deeply grateful am I to the English nation's great doctor for taking me home to his worthy abode, and applying cures; so that, in about a month, I was perfectly healed. Ye is, indeed, deeply imbued with your profound benevolence. In truth it is as though we had unexpectedly found a divine spirit, giving life to the world. On earth there is none to match you. Ye, sleeping and waking, thinks of you. In this life, in the present world, he has no power to recompense you; but in the coming life he will serve you as a horse or a dog.

"To the English nation's great doctor,

"Tsae Ye, with his whole family imbued by your favour, bows his head, and pays respects."

The incident recorded in the following shows the influence of Mr. Colledge's labours:—

"The vigilance and steadiness of the proprietor, in enforcing the rules he had laid down for the institution, and keeping subordination among the inmates, together with his scientific and professional attentions to the sick, had for a long period saved the infirmary from any event of an alarming nature. Yet, in course of time, an aged Chinese, who had been admitted, while conversing with Mr. Colledge, suddenly fell and expired. This circumstance was most unexpected and alarming, owing to the prejudices of the Chinese and the severity of their laws. However, Mr. Colledge, with great presence of mind, immediately locked the door of the room where the deceased lay, and, taking the key with him, sent and informed the tsotang (a Chinese magistrate) of the circumstance; this officer received the information with good feeling, and having satisfied himself concerning the circumstances of the death, evinced no desire either to extort money or make difficulties.

"It is likewise worthy of remark, that none of the patients left the infirmary in consequence of this event, although they were apprised of Mr. Colledge having invited the tsotang to take cognizance of it: on the contrary, every inmate—and the hospital was then full—volunteered to give evidence of the good treatment the deceased had received. And two of the convalescent patients accompanied the corpse to its native village, and returned after the interment.

"I have selected the above anecdote to exhibit the influence the founder of the infirmary had obtained over the mind of the Chinese, who had come to a knowledge of his benevolent exertions, softening, and, in fact, almost subduing, their spirit of revenge towards foreigners."

Some of the letters from the Chinese are very characteristic, both generally and individually. Two individuals approach "respectfully to take leave":—

"We *ants*\*, having been long abroad, wish now to return to our families. We are grateful, medical officer, for the grace you have displayed in giving us benefits, perfectly curing the diseases of our eyes, and granting us food and provisions, without our spending a particle of money. It is, indeed, what may be called expansive benevolence. Your fame will spread over the four seas to men of all ages. We have now no ability to repay you with favours, but can merely express our good wishes in vulgar lan-

\* "This is in accordance with the Chinese custom of designating one's self by some humble term."

guage. May your happiness, medical officer and teacher, be as the eastern sea, the waves overtopping each other, in a thousand steps; and may your longevity compare with the southern mountains, to be perpetual as the sun and moon.

"To the medical officer and teacher:—may he gradually rise upwards to the first rank, and continue long as heaven and earth.

"HWANG TSEWLE and HWANG ASZE, people of Kweishen district, bend their heads, and bow a hundred times."

Again:—

"Your disciple, Tan Sheling, of the district of Haeping in Shaouking-foo, deeply sensible of your favour, and about to return home, bows and takes leave.

"It seems to me that, of all men in the world, they are the most happy who have all their senses perfect, and they the most unfortunate who have both eyes blind. What infelicitous fate it was that caused such a calamity to befall me, alas, I know not. But fortunately, Sir, I heard that you, a most excellent physician, having arrived in the province of Canton, and taken up your residence in Macao, compassionated those who have diseased eyes, gave them medicines, and expended your property for their support; and that, by the exertion of your great abilities, with a hand skilful as that of *Sun* or *Hwa*, you drew together hundreds of those who were dim-sighted, furnished them with houses, took care of them, and supplied them with daily provisions.

"While thus extending wide your benevolence, your fame spread over the four seas. I heard thereof and came, and was happily taken under your care; and not many months passed ere my eyes became bright as the moon and stars when the clouds are rolled away. All this is because your great nation, cultivating virtue and practising benevolence, extends its favours to the children of neighbouring countries.

"Now, completely cured, and about to return home, I know not when I shall be able to requite your favours and kindness. But, sir, it is the desire of my heart, that you may enjoy nobility and emoluments of office, with honours and glory; happiness and felicity that shall daily increase; riches that shall multiply and flourish, like the shoots of the bamboo in spring time; and life that shall be prolonged to ten thousand years. Deeply sensible of your acts of kindness, I have written a few rustic lines, which I present to you with profound respect:—

"England's kind-hearted prince and minister,  
Have shed their favours on the sons of Han:  
Like one divine, disorder'd eyes you heal,  
Kindness so great I never can forget.

Heaven caused me to find the good physician,  
Who with unearthly skill, to cure my eyes,  
Cut off the film, and the 'green' lymph removed:—  
Such, sir, were rarely found in ancient times.

"Honourable sir, thou great arm of the nation, condescend to look upon your disciple, TAN SHELING, who bows his head a hundred times, and pays his respects."

Another eloquent gentleman—"Knocks head, and thanks the great English doctor. Venerable gentleman! May your groves of almond trees be abundant in spring, and the orange trees make the water of your well fragrant; as heretofore may you be made manifest to the world, as illustrious and brilliant, and as a most profound and skilful doctor. I myself arrived at Macao last year, blind in both eyes; I have to thank you, venerable sir, for having, by your excellent methods, cured me perfectly. Your goodness is as lofty as a hill, your virtue deep as the sea; therefore all my family will express their gratitude for your new-creating goodness. Now I am desirous of returning home; your profound kindness it is impossible for me to requite; I feel extremely ashamed of myself for it. Again, I trust that you, venerable sir, will kindly feel compassion for me. Moreover, morning and evening you supplied me with firewood and water. This adds to the shame I feel. I am grateful for your favours, and shall think of them without ceasing. Moreover I am certain that, since you have been a benefactor to the world, and your good government is spread abroad, Heaven must surely grant you a long life, and you will enjoy every happiness. I return to my mean province. Your illustrious name, venerable sir, shall extend to all time; during a thousand ages it shall not decay. I return thanks for your great kindness; inexhaustible are my words to sound your fame, and to express my thanks. I wish you everlasting tranquillity.

"Presented to the great English doctor, and noble gentleman,

in the 11th year of Taoukwang, by Ho Shuh, of the district of Chaougan, in the department of Changchoo, in Fuhkeen, who knocks head and presents thanks."

One poor man, in giving thanks for the cure of his daughter's eyes, says, "I feel deeply indebted for her perfect recovery; but being very poor, I have no means of offering a recompense. I have merely prepared some variegated crackers to manifest my respect. In speaking of his meritorious virtue I feel endless gratitude." Another has a wish that may well startle a Malthusian, namely, that Mr. Colledge may have "sons and heirs numerous as the fruitful locust;" which said locust is reputed to have ninety-nine young ones at a time! But we conclude with the letter of a poet, who aspires to something more than a compliment of "variegated crackers:—

"This I address to the English physician: condescend, sir, to look upon it.

"Diseased in my eyes, I had almost lost my sight, when happily, sir, I met with you;—you gave me medicine; you applied the knife; and, as when the clouds are swept away, now again I behold the azure heavens. My joy knows no bounds. As a faint token of my feelings I have composed a stanza in pentameter, which, with a few trifling presents, I beg you will be pleased to accept. Then happy, happy shall I be!

"Tse jin peen puh—gao kin yin,  
Ho hwan leang e—ke tze Tsun:  
Ling yo tun lac—pin chung hang;  
Shin chin tze keu—e hwey chun.  
Jo fei Tung-tze—sang tze she,  
Ting she Shoo-kun—heen tze shin  
Fung she yang fan—kwei kwio haw,  
Kow pei chang leih—shuey che pin.

"He lavishes his blessings,—but he seeks for no return,  
Such medicine, such physician,—since Tsun were never known:  
The medicine—how many kinds most excellent has he;  
The surgeon's knife—it pierced the eye, and spring once more I see.  
If Tung has not been born again, to bless the present age,  
Then sure, 'tis Soo re-animate, again upon the stage:  
Whenever call'd away from far, to see your native land,  
A living monument I'll wait, upon the ocean's strand."

"\*\*\* pays his respects, and bows a hundred times."

#### LIVERPOOL MECHANICS' INSTITUTION.

This institution was founded in June 1825, by a few public-spirited gentlemen of Liverpool; among whom was Dr. Trail, now Professor of Medical Jurisprudence in Edinburgh College. These gentlemen took a few rooms in Duke-street,—engaged masters to teach in the evenings, reading, writing, English grammar, the elementary parts of mathematics, drawing, &c. Few, however, availed themselves of this excellent opportunity for improvement; the institution was looked upon with jealousy by the majority of master tradesmen, and with indifference by that class for whom it was intended. These feelings, aided by the indolence of some of the masters, brought it in a short time to such a state that its existence was despaired of by many of those who had established it.

At this juncture a few of its most undaunted supporters made a last effort; they discarded several of the masters, engaged others more efficient, and instituted a close personal inspection of the classes. These measures in a few years restored it to prosperity, and in 1832 a larger building became necessary to accommodate the increasing number of pupils in the evening schools. As the institution had no funds, the raising of a new building was to be accomplished entirely by contributions, and this necessarily made the directors responsible to a great amount; yet so determined were they, that Mr. Radcliff, and Mr. Leyland, the president for this year, to both of whom the greatest praise is due for their unwearied exertions, signed the title-deeds of the ground upon which the building stands, when they had only *six guineas* of subscriptions in their possession. Shortly after, two gentlemen subscribed the munificent sums of 500*l.* each; from this period subscriptions rapidly increased, and the first stone of the new building was laid by Lord Brougham in the summer of 1835.

In due time a most commodious edifice was erected, which, however, was no sooner completed than it was burnt to the ground, even before it had been entered upon. Notwithstanding this, the building again rose like the phoenix from its ashes. The ground and building are valued at 11,000*l.* Two distinct day-schools were opened within its walls; the one called the High School, intended for the wealthier classes of society,—the other called the Lower



School, which had been previously established and was intended for the sons of mechanics.

The structure itself is of immense size, consisting of two wings and a centre building. In these there is a beautiful theatre for public lectures, which will accommodate upwards of 1500 auditors; a sculpture-gallery, containing several valuable statues; a museum, a reading-room, and library containing 6000 vols., of which, on an average, 200 are given out daily. The number and extent of the other rooms will be best understood by an account of the classes which occupy them. The Lower Day School, which in 1827 contained 80 pupils—in 1838, 221 pupils, and three masters—in 1839, 449 pupils and 10 masters—contains at present 470 pupils under the care of 12 masters. The terms for sons of members are 1*l*. 15*s*. per annum, for others 2*l*. 5*s*. Excepting classics, there are taught in this school all the branches of a good English education; comprising reading in elementary science, history &c., geography and the use of the globes, grammar, composition &c., writing plain and ornamental, arithmetic, algebra, geometry, trigonometry &c., drawing, French, and natural philosophy.

The High School contains 356 pupils, under the care of 18 masters; terms, 10 guineas per annum. The course of instruction given in this school is intended to fit the pupils either for the college or counting-house. The evening classes, conducted by 26 masters, contain about 650 pupils, to whom instruction is afforded in English grammar, composition, geography, history, writing, arithmetic, the various branches of pure mathematics, navigation, nautical and popular astronomy, mechanical science and its application to the arts, mechanical drawing, architectural drawing, landscape-drawing and practical perspective, ornamental figure drawing and modelling, naval architecture, painting, natural philosophy, the French and German languages, classics, rhetorical delivery, and vocal music. In addition to these, there are public lectures twice a week, the audiences varying in number from 800 to 1000. The number of members at present belonging to the institution is as follows:—

Life members . . . . .	512	Sons of members . . . . .	655
Annual members . . . . .	1395	Apprentices of members . . . . .	266
Quarterly members . . . . .	43	Ladies . . . . .	389
Total . . . . .			
3460			

A contribution of ten guineas constitutes a life member; one guinea per annum, an annual member. A lady's subscription is half-a-guinea per annum.

The whole number of pupils in both the day and evening schools is by the last report 1476.

The effects of such an institution as this, must necessarily be a wide diffusion of useful knowledge among a class of men whose education has hitherto been much neglected. But there is another effect which ought not to be overlooked:—at the time when the institution was first established, many viewed it with great jealousy. Such a change of opinion, however, has now taken place, that those who stood aloof are now about to establish a similar institution. Private schools have also received a new incitement to exertion, and another Mechanics' Institution has already been founded at the north end of the town: in this there are evening schools and public lectures twice a week. This state of public feeling speaks well for the cause of education in Liverpool.

## PROPERTY, CAPITAL, AND CREDIT.

NO. II.—CAPITAL AND CREDIT.

BY EDWARD EVERETT.

"A MOMENT'S consideration will show the unreasonableness of a prejudice against capital, for it will show that it is the great instrument of the business movements of society. Without it, there can be no exercise, on a large scale, of the mechanic arts, no manufactures, no private improvements, no public enterprises of utility, no domestic exchanges, no foreign commerce. For all these purposes, a twofold use of capital is needed. It is necessary that a great many persons should have a portion of capital: as, for instance that the fisherman should have his boat; the husbandman his farm, his buildings, his implements of husbandry, and his cattle; the mechanic, his shop and his tools; the merchant, his stock in trade. But these small masses of capital are not alone sufficient for the highest degree of prosperity. Larger accumulations are wanted to keep the smaller capitals in steady movement, and to circulate their products. If manufactures are to flourish, a very great outlay in buildings, fixtures, machinery, and power, is necessary. If internal intercourse is to diffuse its

inestimable moral, social, and economical blessings through the land, canals, rail-roads, and steam-boats, are to be constructed at vast expense. To effect these objects, capital must go forth like a mighty genius, bidding the mountains to bow their heads, and the valleys to rise,—the crooked places to be straight, and the rough places plain. If agriculture is to be perfected, costly experiments in husbandry must be instituted by those who are able to advance, and can afford to lose, the funds which are required for the purpose. Commerce, on a large scale, cannot flourish without resources adequate to the construction of large vessels, and their outfit for long voyages, and the exchange of valuable cargoes. The eyes of the civilised world are intently fixed upon the experiments now making to navigate the Atlantic by steam. It is said that the Great Western was built and fitted out at an expense of near half a million of dollars. The success of the experiment will be not more a triumph of genius and of art than of capital. The first attempts at the whale-fishery, in Massachusetts, were made from the South Shore and the island of Nantucket, by persons who went out in small boats, killed their whale, and returned the same day. This limited plan of operations was suitable for the small demands of the infant population of New England. But the whales were soon driven from the coast; the population increased, and the demand for the product of the fisheries proportionably augmented. It became necessary to apply larger capitals to the business. Whale ships were now fitted out at considerable expense, which pursued this adventurous occupation from Greenland to Brazil. The enterprise thus manifested awoke the admiration of Europe, and is immortalised in the well-known description by Burke. But the business has grown, until the ancient fishing grounds have become the first stations on a modern whaling voyage; and capitals are now required sufficient to fit out a vessel for an absence of forty months, and a voyage of circumnavigation. Fifty thousand dollars are invested in a single vessel; she doubles Cape Horn, ranges from New South Shetland to the coasts of Japan, cruises in unexplored latitudes, stops for refreshment at islands before undiscovered, and on the basis, perhaps, of the capital of an individual house, in New Bedford or Nantucket, performs an exploit which, sixty or seventy years ago, was thought a great object to be effected by the resources of the British government. In this branch of business a capital of twelve or fifteen million of dollars is invested. Its object is to furnish a cheap and commodious light for our winter evenings. The capitalist, it is true, desires an adequate interest on his investment; but he can only get this by selling his oil at a price at which the public are able and willing to buy it. The 'overgrown capitalist,' employed in this business, is an overgrown lamplighter. Before he can pocket his six per cent., he has trimmed the lamp of the cottager, who borrows an hour from evening to complete her day's labour, and has lighted the taper of the pale and thought-worn student, who is 'outwatching the bear,' over some ancient volume.

"In like manner the other great investments of capital—whatever selfish objects their proprietors may have—must, before that object can be attained, have been the means of supplying the demand of the people for some great article of necessity, convenience, or indulgence. This remark applies peculiarly to manufactures carried on by machinery. A great capital is invested in this form, though mostly in small amounts. Its owners, no doubt, seek a profitable return; but this they can attain in no other way than by furnishing the community with a manufactured article of great and extensive use. Strike out of being the capital invested in manufactures, and you lay upon society the burden of doing by hand all the work which was done by steam and water, by fire and steel; or it must forego the use of the articles manufactured. Each result would in some measure be produced. A much smaller quantity of manufactured articles would be consumed, that is, the community would be deprived of comforts they now enjoy; and those used would be produced at greater cost by manual labour. In other words, fewer people would be sustained, and those less comfortably and at greater expense. When we hear persons condemning accumulations of capital employed in manufactures, we cannot help saying to ourselves, Is it possible that any rational man can desire to stop those busy wheels,—to paralyse those iron arms,—to arrest that falling stream which works while it babbles? What is your object? Do you wish wholly to deprive society of the fruit of the industry of these inanimate but untiring labourers? Or do you wish to lay on aching human shoulders the burdens which are so lightly borne by these patient metallic giants? Look at Lowell. Behold the palaces of her industry side by side with her churches and her school-houses;

the long lines of her shops and warehouses, her streets filled with the comfortable abodes of an enterprising, industrious, and intelligent population. See her fiery Sampsons roaring along her railroad with thirty laden cars in their train. Look at her watery Goliaths, not wielding a weaver's beam, like him of old, but giving motion to hundreds and thousands of spindles and looms. Twenty years ago, and two or three poor farms occupied the entire space within the boundaries of Lowell. Not more visibly, I had almost said not more rapidly, was the palace of Aladdin, in the Arabian tales, constructed by the genius of the lamp, than this noble city of the arts has been built by the genius of capital. This capital, it is true, seeks a moderate interest on the investment; but it is by furnishing to all who desire it the cheapest garment ever worn by civilised man. To denounce the capital which has been the agent of this wonderful and beneficent creation,—to wage war with a system which has spread, and is spreading, plenty throughout the country—what is it but to play in real life the part of the malignant sorcerer in the same eastern tale, who, potent only for mischief, utters the baleful spell which breaks the charm, heaves the mighty pillars of the palace from their foundation, converts the fruitful gardens back to their native sterility, and heaps the abodes of life and happiness with silent and desolate ruins?

It is hardly possible to realise the effects on human comfort of the application of capital to the arts of life. We can fully do this, only by making some inquiry into the mode of living in civilised countries in the middle ages. The following brief notices, from Mr. Hallam's learned and judicious work, may give us some distinct ideas on the subject. Up to the time of Queen Elizabeth in England, the houses of the farmers in that country consisted of but one story and one room. They had no chimneys. The fire was kindled on a hearth of clay in the centre, and the smoke found its way out through an aperture in the room, at the door, and the openings at the side for air and light. The domestic animals, even oxen, were received under the same roof with their owners. Glass windows were unknown, except in a few lordly mansions, and in them they were regarded as moveable furniture. When the Dukes of Northumberland left Alnwick castle to come to London for the winter, the few glass windows which formed one of the luxuries of the castle were carefully taken out and laid away, perhaps carried to London to adorn the city residence. The walls of good houses were neither wainscoted nor plastered. In the houses of the nobility the nakedness of the walls was covered by hangings of coarse cloth. Beds were a rare luxury. A very wealthy individual had one or two in his house: rugs and skins laid upon the floor were the substitute. Neither books nor pictures formed any part of the furniture of a dwelling in the middle ages; as printing and engraving were wholly unknown, and painting but little practised. A few inventories of furniture, dating from the fifteenth century, are preserved. They afford a striking evidence of the want of comfort and accommodation in articles counted by us among the necessities of life. In the schedule of the furniture of a Signor Contarini, a rich Venetian merchant living in London in 1481, no chairs nor looking-glasses are named. Carpets were unknown at the same period: their place was supplied by straw and rushes, even in the presence chamber of the sovereign. Skipton Castle, the principal residence of the Earls of Cumberland, was deemed amply provided in having eight beds, but had neither chairs, glasses, nor carpets. The silver plate of Mr. Fernor, a wealthy country gentleman at Easton, in the sixteenth century, consisted of sixteen spoons, and a few goblets and ale-pots. Some valuations of stock-in-trade in England, from the beginning of the fourteenth century, have been preserved. A carpenter's consisted of five tools, the whole valued at a shilling; a tanner's, on the other hand, amounted to near ten pounds, ten times greater than any other,—tanners being at that period the principal tradesmen, as almost all articles of dress for men were made of leather.

"We need but contrast the state of things in our own time with that which is indicated in these facts, to perceive the all-important influence on human comfort of the accumulation of capital, and its employment in the useful arts of life. As it is out of the question for the government to invest the public funds in the branches of industry necessary to supply the customary wants of men, it follows that this must be done by private resources and enterprise. The necessary consequence is, that the large capital required for these operations must be furnished by the contributions of individuals, each possessing a portion of the stock, or by a single proprietor.

"It is rather remarkable that the odium, of which all capital in large masses has sometimes been the subject, should be directed

more against the former,—namely, joint-stock companies,—than against large individual capitals. This, however, appears to be the fact. Some attempts have been made to organise public sentiment against associated wealth, as it has been called, without reflecting, as it would seem, that these associations are the only means by which persons of moderate property are enabled to share the profits of large investments. Were it not for these associations in this country, no pursuit could be carried on, except those within the reach of individual resources; and none but very rich persons would be able to follow those branches of industry which now diffuse their benefits among persons of moderate fortune. In which part of this alternative a conformity with the genius of our political institutions exists, need not be laboured.

"But whether the masses of capital necessary to carry on the great operations of trade are derived from the association of several, or from the exclusive resources of one, it is plain that the interest of the capital, however formed, is identical with that of the community. Nobody hoards,—everything is invested or employed, and directly or indirectly, is the basis of business operations.

"It is true, that when one man uses the capital of another, he is expected to pay something for this privilege. But there is nothing unjust or unreasonable in this. It is inherent in the idea of property. It would not be property if I could not take it from you and use it as my own without compensation. That simple word, *It is mine*, carries with it the whole theory of property and its rights. If my neighbour has saved his earnings and built him a house with it, and I ask his leave to go and live in it, I ought in justice to pay him for the use of his house. If, instead of using his money to build a house in which he permits me to live, he lends me his money, with which I build a house for myself, it is equally just that I should pay him for the use of his money. It is his, not mine. If he allows me to use the fruit of his labour or skill, I ought to pay him for that use as I should pay him if he came and wrought for me with his hands. This is the whole doctrine of interest. In a prosperous community, capital can be made to produce a greater return than the rate of interest fixed by law. The merchant who employs the whole of his capital in his own enterprises, and takes all the profit to himself, is commonly regarded as a useful citizen; it would seem unreasonable to look with a prejudiced eye upon the capitalists who allow all the profits of the business to accrue to others, asking only legal interest for his money which they have employed.

"I have left myself scarce room to speak on the subject of credit. The legitimate province of credit is to facilitate and to diffuse the use of capital, and not to create it. I make this remark with care, because views prevail on this subject exaggerated and even false; which, carried into the banking system, have done infinite mischief. I have no wish whatever to depreciate the importance of credit. It has done wonders for this country. It has promoted public and private prosperity; built cities, cleared wildernesses, and bound the remotest parts of the continent together with chains of iron and gold. These are wonders, but not miracles; these effects have been produced not without causes. Trust and confidence are not gold and silver; they command capital, but they do not create it. A merchant in active business has a capital of twenty thousand dollars; his credit is good; he borrows as much more; but let him not think he has doubled his capital. He has done so only in a very limited sense. He doubles the sum on which for a time he trades; but he has to pay back the borrowed capital with interest: and that, whether his business has been prosperous or adverse. Still, I am not disposed to deny that, with extreme prudence and good management, the benefit to the individual of such an application of credit is great; and when individuals are benefited, the public is benefited. But no capital has been created. Nothing has been added to the pre-existing stock. It was in being—the fruit of former accumulation. If he had not borrowed it, it might have been used by its owner in some other way. What the public gains, is the superior activity that is given to business by bringing more persons, with a greater amount and variety of talent, into action.

"These benefits, public and private, are not without some counterbalancing risks: and with the enterprising habits and ardent temperament of our countrymen, I should deem the formation of sound and sober views on the subject of credit one of the most desirable portions of the young merchant's education. The eagerness to accumulate wealth by trading on credit, is the disease of the age and country in which we live. Something of the solidity of our character and purity of our name has been sacrificed to it.

Let us hope that the recent embarrassments of the commercial world will have a salutary influence in repressing this eagerness. The merchants of the country have covered themselves with lasting honour abroad, by the heroic fidelity with which they have, at vast sacrifices, fulfilled their obligations. Let us hope that hereafter they will keep themselves more beyond the reach of the fluctuations in business and the vicissitudes of affairs."

### HINTS FOR THE MANAGEMENT OF SUNDAY-SCHOOLS.

Our attention having been drawn by a correspondent to the subject of the management of Sunday-schools, and believing that many of our readers take an interest in those useful establishments, we have inserted the following "Hints," which are from the pen of a friend who has for many years taken an extremely active part in the superintendence of a Sunday-school very numerously attended:—

A Sunday-school is, of all others, perhaps the most difficult to conduct efficiently, because the influence of the teacher is not daily felt. Of course, there is less difficulty when the children are regular attendants at a day-school, being trained there in habits of order; but even then it is not easy for the Sunday-school teacher to maintain the strict discipline so essential to success. The best rules are these:—In giving directions, or establishing rules, be very careful that they be just, and not beyond what may reasonably be expected of children; but after this, be FIRM in making yourself obeyed. Never command *without* obedience; for if children once feel that the teachers do not make a rule of this, they will naturally pay very slight attention to them: of course it will require perseverance in the teacher, but he will soon find the good effects of his firmness. Again, be *even-tempered*, never on any account suffering yourself to *speak a word in anger*, but speak in kindness, which is quite compatible with firmness; and let the children see that you wish to be their friend as well as mere instructor, taking occasion to remark publicly on their good as well as bad behaviour.

Be lively and animated in your manner. Never be satisfied with simply hearing a lesson well read or repeated, but take pains to lead your children to understand what they read. For this purpose, converse familiarly with them, using freely plain illustrations, and leading their young minds to *think*;—to do this *happily*, of course, requires much practice, and some labour at first. The teacher should be careful not to go to his labours *unprepared*, especially when (as is the case with so many Sunday-school teachers) he has enjoyed but a limited education. Be sure, before dismissing any subject you have conversed about, to ascertain that you have been understood.

Here it is worth remarking, that whilst familiar in your manner, you must never suffer the respect of your pupils to be diminished. Always, also, maintain a religious tone and bearing in all your instruction. In the case of very young children, the conversational style of teaching is most useful, and keeps up attention best. With these be very careful to restrain the first indications of disobedience; and by not dwelling too long on one subject, and not talking above their comprehension, adding to all a lively and cheerful mode of address, you may easily succeed in keeping good order without any weeping.

As to punishments, *when the teacher is judicious and in earnest*, they will rarely be needed. No CORPORAL PUNISHMENT should be used, but a deprivation of some privilege, or a few kind words from the superintendant, *apart from the class*, will often be quite sufficient. The teacher is often the most to blame. We cannot go further into this subject, although so many thoughts occur that it is difficult to stop. Let our inquirer study such books as Todd's Sunday-school Teachers' Manual for fuller information: and above all, let his heart be filled with that love to the little ones under his care—that earnest desire to be of some use in his day and generation, which will, with due reliance on the aid of his heavenly Father, effectually prevent his being discouraged by any difficulties, or cast down by apparent want of present success. "Cast thy

bread upon the waters, and it shall return unto thee after many days."

It is well worth adding, that a Sunday-school class should not exceed eight or ten if possible; a larger number may be and is often met with, and *sometimes* well-disciplined, but the mental training must be imperfectly attended to.

### THE WIDOW'S HOPE.

BY H. F. GOULD.

SLEEP on, my babe, and in thy dream  
Thy father's face behold,  
That love again may warmly beam  
From eyes now dark and cold.  
His wonted fond embrace to give,  
To smile as once he smiled,  
Again let all the father live,  
To bless his orphan child.

Thy mother sits these heavy hours  
To measure off with sighs;  
And over life's quick-wither'd flowers  
To droop with streaming eyes.  
For, ah! our waking dreams, how fast  
Their dearest visions fade,  
Or flee, and leave their glory cast  
For ever into shade!

And still, the doting, stricken heart,  
In every bleeding string  
That grief has snapp'd or worn apart,  
Finds yet wherewith to cling;  
And yet whereon its hold to take  
With stronger, double grasp,  
Because of joys it held to break,  
Or melt within its clasp.

A blast has proved, that in the sand  
I bas'd my fair, high tower!  
Pale Death has laid his rending hand  
On my new Eden bower!  
And now, my tender orphan boy,  
Sweet bud of hope, I see  
My spice of life, my future joy,  
My all, wrapp'd up in thee.

I fear to murmur in the ear  
Of Him who will'd the blow,  
And sent the king of terrors here  
To lay thy father low.  
I ask his aid my griefs to bear,—  
To say "Thy will be done,"  
That Heaven will still in pity spare  
The widow's only son.

### ANARCHY.

In times of anarchy, ambition maketh use of the people as ministers to its private views, and doth but use them to put on their own yokes.—*Sir Philip Sidney.*

### A ROYAL RIVAL IN TRADE.

Charles V. going to see the new cloister of the Dominicans at Vienna, overtook a peasant who was carrying a sucking-pig, and whose cries were so disagreeable to the emperor, that, after many expressions of impatience, he said to the peasant, "My friend, do you not know how to silence a sucking-pig?" The poor man said, modestly, "that he really did not, and should be happy to learn." "Take it by the tail," said the emperor. The peasant finding this succeed upon trial, turned to the emperor, and said, "Faith, friend, you must have been longer at the trade than me, for you understand it better!"—an answer which furnished repeated laughter to Charles and his court.

### A LIVELY IMAGINATION.

A lively imagination is a great gift, provided early education tutors it. If not, it is nothing but a soil equally luxuriant for all kinds of seeds.—*Niebuhr.*

### FRIENDSHIP.

Friendship is made fast by interwoven benefits.—*Sir Philip Sidney.*



## OUR LITERARY LETTER-BOX.

HUMANITAS gives us the following statement:—A youth, respecting whom he writes, was, at the early age of eighteen weeks, by "a paralytic stroke, deprived of the use of his lower limbs, and consequently disabled from walking. He is now about twenty-three years of age, and has not recovered the strength of those useful members, and cannot walk any, not even with the aid of crutches. Providence, however, has amply compensated him by bestowing the rare and invaluable gift of great intellectual powers. These he has diligently cultivated, and has increased both in knowledge and piety. His natural talent, combined with that high degree of improvement (to which his solitary state must be very favourable), has rendered him a young man of great capability, remarkable for his unblemished character, and for his untiring exertion, even at his present age, for the public good. In the year 1826, being not then twenty years of age, he wrote and published a pamphlet, called 'Expositions-tions with the Profane.' It was reviewed and recommended by the 'Watchman' newspaper; and notwithstanding the remoteness of his present situation (residing in a village in the county of Radnor, as a schoolmaster, and the tract being published by a country bookseller), it has had a rapid sale. In 1837, he addressed a powerful and well-written letter to the 'Inhabitants of the County of Radnor, on the present low State of Learning in the County;' and has now a work in the press, called 'An Essay on the Nature and Importance of Legal Oaths, and on the awful Consequences of Perjury and of Profane Swearing.' His object in this is, as his preface states, 'to promote among men the love of truth and faithfulness, of fidelity and piety.'

"Now, the question I have to ask you is—Is there nothing, or can there be nothing, constructed, by which he may be able to move himself along a street, about an office, or the like? Being the eldest of a large family, he has not as yet ever felt the want of an attendant, as he has brothers who, one or the other, carry him. Now, Mr. Editor, as his arms and body are strong, could not—believe me, I ask you with all modesty—could not there be something of this kind made, on the principle of the lever and wheel?"

MR. KIRK, the gentleman who originally called our attention to the good or evil of NOVEL-READING, has written to us—and so have several other correspondents—relative to the interesting letter of J. P. (which was from Glasgow) in No. 64. Our correspondents and ourselves would come nearer in agreement than perhaps they think; but we are unwilling to open up the matter again, as we might be drawn into controversy.

G. W.—THE FUNDS, as they are called, are not funds—that is, they are not money. The money which constituted the National Debt is all spent and gone; the FUNDS are nothing but the acknowledgments of the Government of this country that it is indebted so much money, and the holders, or persons in whose name the debt stands, are thereby entitled to receive so much money annually, as interest. In consequence, however, of the national creditors having free permission to transfer their claims, the National Debt has become a sort of *paper property*, which is daily bought and sold. If I have a certain amount of money invested in the FUNDS—that is, if the Government acknowledges that it owes me so much money, for which I am paid, through the agency of the Bank of England, a certain amount of annual interest—and I am anxious to get the use of my *principal*, I can transfer my claim on the Government to any individual who may be willing to take it. And as the interest is always sure, and the convenience of being able to "sell out" very great, people who have money which they wish to invest for a period, prefer, generally, investing it in the FUNDS, as they can recover their principal again with an ease which might not be the case with investments in other descriptions of property. The national creditor cannot demand his principal back from Government; it is only bound to pay the annual interest: therefore, the facility of transferring stock is not only a great convenience, but is made a great monied instrument.

Any person may transfer his own stock to any purchaser whom he may choose to sell it to; but the practice has grown up of leaving the business in the hands of stock-brokers, who constitute an influential class. The chief stock-brokers form a sort of self-elected corporation, with a building where they hold their meetings, called the Stock Exchange, a few steps from the Bank of England: such brokers and jobbers as have not been able to gain admission into the Stock Exchange constitute a kind of "light infantry," hanging about it, the individuals of which are more or less individually respectable.

The National Debt having been borrowed at different times, at different rates of interest, and on varying conditions, the "FUNDS," or national obligations, are divided into different classes, bearing different names, the chief of which are the "Consols," a contraction for consolidated, (several classes

having been consolidated to form it,) or otherwise the Three per Cents. Added to the Government FUNDS are an immense variety of other paper securities—shares in foreign loans, in companies, mines, canals and railroads, &c. &c., which constitute the stuff bought and sold in the MONEY-MARKET; and the respective values of which rise and fall on much the same principle that the value of corn, fish, or potatoes, rises or falls—though, of course, the action, or machinery, of the money-market is somewhat more artificial, complicated, and delicate, than that of any ordinary market.

There is a vast amount of "jobbing" in the FUNDS, practised not only by the irregulars, but by the regular members of the Stock Exchange, which, under the pretence of buying and selling, is a species of gambling on a large extent. One party offers to buy, and another to sell, at a certain price on a certain day. Instead, however, of actual sales, or transfers, taking place, the losing party pays to the winner the difference between the price at which the bargain or bet was made, and the price which the particular stock, or fund, is selling at when the settling arrives. Defaulters, unable to settle their bets, are called *Lame Ducks*; parties whose purchases or bargains make it their interest that the prices should rise, are called *Bulls*, because they are supposed to be likely to resort to any artifice that may cause the prices to be *tossed up*; while parties whose interest it is that the prices should fall are called *Bears*, on the opposite idea of *tramping down*.

Thrice has a Mr. E. D. WYNNER written to us—"thrice the brinded cat has mewed"—and we have not answered him! Therefore writes he, in mournful strain, "I am a lover of the Penny Post, for I scribble away a deal of paper, and pay a many pennies, but I get no answers, not even from the London Saturday Journal." This is sad—but why did he not try us with something else than one single solitary question? Mr. Wynne wished us to tell him which of the metropolitan suburban villages were the most healthy; and though the question was rather *broad*, we put ourselves a little out of the way to try and get the materials for an answer to him. We have not succeeded; and can only tell him, that Islington is pleasant, but is becoming already an integral portion of London; that Highgate is high and healthy, but too cold in the spring months for invalids; that Hampstead is also a very pleasant district; Stoke Newington likewise; and Hackney, an ancient but not-to-be-despised parish. Of the villages on the Surrey side of the Thames we can say nothing, though the road all the way out to Norwood is exceedingly pleasant.

While we are thus gratifying one individual, we may here mention that we have not a few correspondents who have had greater reason to complain than Mr. Wynne. Several very intelligent correspondents have suggested topics for consideration, or questions, well worthy of attention, which, not being able to attend to at the time, have been gradually forgotten; and many others, who have written in an intelligent manner on matters chiefly personal to themselves, have received no answer. Let such of our correspondents as think themselves unworthily neglected refresh our memory—it costs them only a *penny*; and we will have no hesitation to answer privately any considerate correspondent who gives us his address, and whose letter may seem to require it.

S. Z. says, "In Mrs. H. More's work on the Education of a Princess, there is a suggestion which I think might be of a very useful cast. I allude to a passage in the early part of the chapter on Books, in which the authoress proposes that associations should be formed for the purpose of conversation on various subjects (of which several good samples are there offered), without the formality of debate. I know not whether there be any such societies; and if there are, they ought to be rather limited as to numbers. Will it be within your plan to suggest to your readers the formation, in their respective circles, of such associations?"

S.—Birds preen and dress their plumage with oil secreted by glands situated on the upper part of the tail. Water-birds require a larger portion of this protecting fluid, and therefore the glands are largest in that race.

GEO. INCHBOARD, Manchester, recommends the following mode of securing money in letters:—"Take a card (if the size of the letter, the better), and cut it thus—

1	2
4	3

then put in your coin with the corners 2 and 4 above it, and the corners 1 and 3 below it; and I defy all the post-office clerks and letter-carriers in England to shake it out by any fair means."

R.—THE IDES OF MARCH is noted in Roman history as the day of the assassination of Julius Cæsar. Shakspeare makes a soothsayer bid the Dictator "beware the ides of March." The Romans divided their months into three parts, of which the ides was the middle, from *idare*, to divide. Cæsar was slain on the 15th of March, that day being the ides.

"A YOUNG STUDENT," Newcastle on Tyne, wishes "to study some books which contain the fundamental parts of English poetry," and requests us to assist him to do so.

The question is not very lucidly put, since the essential qualities of poetry are the same in all languages, and the ornaments of rhythm, rhyme, and metre are but outward graces, rendering intellectual loveliness more attractive through an earthly medium, "the charmed ear." Our correspondent informs us that (among others) he has read great part of the works of Milton and Wordsworth. Had he not informed us of this, we should have at once referred him to those poets, as a full satisfaction to his desire; and even now we can but recommend a careful study of both for a fulfilment of his wishes. We cannot, in the literature of any age or country, point out two, more fully imbued with the fine spirit of true poetry. The diction of both is masterly, although Wordsworth has sometimes disfigured his works by an adherence to a fantastic theory. Milton, in his unrivalled blank verse, fettered himself by no rules; his ear was his faithful guide. We have somewhere seen his magnificent rhythm compared to the grand tones of an organ. It was a poetic mind that prompted the simile.

The poets of antiquity must not be omitted by a student of the art; but they cannot be read by him with advantage except in the original, or without a very thorough knowledge of the languages they wrote in. We half suspect, from the tone of his letter, that our correspondent is himself an aspirant to poetic honours. There are few, who have read much when young, who have not adventured to tag a rhyme; and too, by far too many, have been deluded by a facility in versifying into a belief that they were poets. We earnestly warn our correspondent against this danger. Supposing even that he be really possessed of true poetical powers, yet let him remember in time that no man ever did, or ever can, distinguish himself as a poet, without possessing an intimate knowledge of men as they are; and that such knowledge is not to be gained otherwise than by studying them in the world, and not in the closet; and that, consequently, he cannot gratify his highest aspirations otherwise than by toiling in the station in which he is placed in life, be it high or low. Let him not forget that Milton was for years a schoolmaster, and that his finest works were the product of his ripier years. If the poetic fire be genuine, it will not be extinguished. If it be false, it is well to have refrained from following a deceitful *ignis fatuus*.

It may perhaps gratify the "Young Student," and some others of our correspondents, to learn that we purpose very shortly commencing a series of papers on the British poets, interspersed with specimens illustrative of their peculiar excellences.

"A CONSTANT READER," DUNFERMLINE, referring to Milton's description of Chaos, inquires the meaning of Demogorgon, in the passage

— "And by them stood  
Orcus and Aëtes, and the dreaded name  
Of Demogorgon."

"Is it," says our correspondent, "a Greek compound created for the emergency, to convey some awful image of the brain which he could not express in English, save by a periphrasis?—or has it any mythic allusion to the great whirlpool of the Atlantic, the Gulf Stream; an interpretation which I have seen tantalisingly hinted at in an article on Poetry in an Edinburgh Review?"

We cannot perceive any, even the remotest, allusion to the Gulf Stream, or the perils of an Atlantic voyage, in the description of Satan's flight from hell. Milton compares his course to the voyages of Jason and Ulysses, but does not use any expression which can warrant the supposition that he had the perils of Columbus, or any of the succeeding American adventurers, in his mind when he dictated the second Book of Paradise Lost. The whole imagery is drawn from the classic mythology.

Demogorgon was the chief, or rather the most terrible, of the terrestrial divinities; his companions were Eternity and Chaos. To him the creation of the Heavens and the Sun, which he gave in marriage to the Earth, is ascribed. From this marriage, Tartarus, Night, and other children, proceeded. Demogorgon is fabled to have had many children:—first Discord, then Pan his second son; the Fates, Clotho, Lachesis, and Atropos; Heaven, Pethos, the Earth, and Erebus.

Demogorgon was regarded as an awful mystery; and it appears that, in the fables of his children and their offspring, the history of the creation is shadowed forth. Sacrifices were offered to him, especially in Arcadia. The

name is derived from the two Greek words, Daimon, which properly means a spiritual essence or intelligence—a being intermediate between the gods and men, and Gorgon, a being terrible to behold. Hence Milton's fine poetical expression, "the dreaded name of Demogorgon"—something too awful for the imagination to embody.

Orcus is generally by the poets taken for Pluto, as *Aëtes* for any dark place. These terms are of a very vague signification, and are employed by the poets accordingly. Milton has personified them, and put them in the court of Chaos.

A SUBSCRIBER, COLCHESTER, puts the following question: "Whether the talents of an individual are of an equal degree, and whether the propensity to which any such individual attains in a science, or any other branch of learning, is dependent upon taste or other acting principles, and not upon a supposed genius for such science?"

Without referring to the minute division of the various mental faculties made by phrenologists, we must admit that the power of the mind, as exercised through the medium of the body—the only state in which we can form a judgment of its nature,—is divisible into separate parts, distinct from each other. For instance, we recognise the power of imagination, of calculation, and of memory; and we believe it to be very rare indeed for each of these faculties to be possessed in an equal degree by one individual. We do not pretend to say what may be the predisposing cause, but we are perfectly satisfied of the fact. It is most satisfactorily proved by the examination of children, and we never yet met with any who had been accustomed to their society, as instructors or otherwise, who doubted it. It is not unusual to meet with a boy who is a good arithmetician, and yet has a bad memory; or one with a good memory, who is dull at "cyphering." Our correspondent, who appears to advocate the equality of mental powers—at least until a bias has been given to the mind, and a "taste" for a particular study infused,—quotes the case of Kirke White, who succeeded in every study to which he gave his attention; and alludes (we think not very happily) to the multifarious knowledge of Lord Brougham. Such instances prove nothing. It may be very possible for a man of a powerful mind to attain a knowledge of any subject he chooses to turn his attention to; but we do not believe that he will in every case do so with equal facility. We will quote one passage from Kirke White's Diary, which we think our correspondent must have overlooked, and will then take leave of the subject. "I will labour diligently in my mathematical studies, because I half suspect myself of a dislike to them." Why should he, who by dint of these very studies had just received the highest collegiate honours attainable, dislike them, had they not proved more toilsome than other studies as arduous but more congenial? We could multiply instances of this kind, but our limits restrain us.

We have received several letters on the subject of the Camphor Experiment referred to, in the Letter-Boxes of Nos. 61 and 65. With deference to our correspondents who have taken the trouble to write (two of them very intelligently), we rather think the subject not of sufficient importance to our readers, to advert further to it. One of the letters, however,—a rambling but very amusing one, dated from "the foot of the Grampians"—states that the writer, after trying the experiment successfully and unsuccessfully, thinks that "if there be the least dust or grease, the experiment will be a failure; but if otherwise, that it will succeed." In this our friend Norval, "on the Grampian Hills," is quite right. We tried the experiment with precaution, and though the camphor did not whirl at the rate of "ten knots an hour," as we were told it would, it did, nevertheless, whirl very rapidly; and the drop of oil stayed its rotary motion. Samuel Haughton, of Carlow, may therefore, try the experiment once more. Rapid evaporation is probably the cause of the rotary motion.

All Letters intended to be answered in the LITERARY LETTER-BOX are to be addressed to "THE EDITOR of the LONDON SATURDAY JOURNAL," and delivered FREE, at 113, Fleet-street.

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